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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to Commission file number 001-38935

ATRECA, INC.

(Exact name of registrant as specified in its charter)

Delaware	**27-3723255**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

835 Industrial Road, Suite 400,
San Carlos, CA 94070
(Address of principal executive offices)
(Zip Code)

(650)-595-2595
(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock	BCEL	The Nasdaq Global Select Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒.

As of August 8, 2022, the registrant had 31,875,995 shares of Class A common stock, $0.0001 par value per share and 6,715,441 shares of Class B common stock, $0.0001 par value per share, outstanding.

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PART I --- FINANCIAL INFORMATION

Item 1. Condensed Financial Statements

Atreca, Inc.
Condensed Balance Sheets
(in thousands, except share and per share data)

	June 30, 2022 (unaudited)	December 31, 2021
ASSETS		
Current Assets		
Cash and cash equivalents	$ 26,446	$ 94,746
Investments	75,286	22,287
Prepaid expenses and other current assets	7,907	5,337
Total current assets	109,639	122,370
Property and equipment, net	40,801	43,015
Operating lease right-of-use assets	36,893	—
Long-term investments	—	31,042
Deposits and other	3,497	3,630
Total assets	$ 190,830	$ 200,057
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable	$ 2,041	$ 3,352
Accrued expenses	7,885	11,555
Operating lease liabilities, current portion	3,327	—
Other current liabilities	216	1,992
Total current liabilities	13,469	16,899
Deferred rent	—	28,229
Operating lease liabilities, net of current portion	62,158	—
Total liabilities	75,627	45,128
Commitment and contingencies (Note 9)		
Stockholders' equity		
Class A common stock, $0.0001 par value, 650,000,000 shares authorized as of both June 30, 2022 and December 31, 2021; 31,875,995 and 31,043,356 shares issued and outstanding at June 30, 2022 and December 31, 2021, respectively	3	3
Class B common stock, $0.0001 par value, 50,000,000 shares authorized as of both June 30, 2022 and December 31, 2021; 6,715,441 shares issued and outstanding as of both June 30, 2022 and December 31, 2021	1	1
Additional paid-in capital	528,380	514,794
Accumulated other comprehensive loss	(661)	(102)
Accumulated deficit	(412,520)	(359,767)
Total stockholders' equity	115,203	154,929
Total liabilities and stockholders' equity	$ 190,830	$ 200,057

See accompanying notes to the unaudited condensed financial statements.

Atreca, Inc.
Condensed Statements of Operations
(in thousands, except share and per share data)
(unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Expenses				
Research and development	$ 19,953	$ 19,036	$ 37,017	$ 37,424
General and administrative	8,077	8,031	16,683	15,852
Total expenses	28,030	27,067	53,700	53,276
Interest and other income (expense)				
Other income	—	349	750	693
Interest income	153	56	197	147
Interest expense	—	(1)	—	(2)
Loss on disposal of property and equipment		(11)	—	(11)
Loss before income tax expense	(27,877)	(26,674)	(52,753)	(52,449)
Income tax expense	—	(1)	—	(1)
Net loss	$ (27,877)	$ (26,675)	$ (52,753)	$ (52,450)
Net loss per share, basic and diluted	$ (0.72)	$ (0.72)	$ (1.38)	$ (1.42)
Weighted-average shares used in computing net loss per share, basic and diluted	38,591,436	36,893,827	38,288,831	36,867,592

See accompanying notes to the unaudited condensed financial statements.

Atreca, Inc.
Condensed Statements of Loss and Comprehensive Loss
(in thousands)
(unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Net loss	$ (27,877)	$ (26,675)	$ (52,753)	$ (52,450)
Other comprehensive loss:				
Unrealized loss on available-for-sale debt securities	(191)	(34)	(559)	(42)
Comprehensive loss	$ (28,068)	$ (26,709)	$ (53,312)	$ (52,492)

See accompanying notes to the unaudited condensed financial statements.

Atreca, Inc.
Condensed Statements of Stockholders' Equity
(in thousands, except share data)
(unaudited)

Three Months Ended June 30, 2021	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at March 31, 2021	36,890,970	$ 4	$ 497,561	$ 50	$ (276,216)	$ 221,399
Issuance of common stock upon exercise of options	3,444	—	31	—	—	31
Stock-based compensation	—	—	3,882	—	—	3,882
Unrealized loss on available-for-sale debt securities	—	—	—	(34)	—	(34)
Net loss	—	—	—	—	(26,675)	(26,675)
Balances at June 30, 2021	36,894,414	$ 4	$ 501,474	$ 16	$ (302,891)	$ 198,603

Three Months Ended June 30, 2022	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at March 31, 2022	38,591,436	$ 4	$ 522,893	$ (470)	$ (384,643)	$ 137,784
Stock-based compensation	—	—	5,487	—	—	5,487
Unrealized loss on available-for-sale debt securities	—	—	—	(191)	—	(191)
Net loss	—	—	—	—	(27,877)	(27,877)
Balances at June 30, 2022	38,591,436	$ 4	$ 528,380	$ (661)	$ (412,520)	$ 115,203

See accompanying notes to the unaudited condensed financial statements.

Atreca, Inc.
Condensed Statements of Stockholders' Equity
(in thousands, except share data)
(unaudited)

Six Months Ended June 30, 2021	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at December 31, 2020	36,804,603	$ 4	$ 492,436	$ 58	$ (250,441)	$ 242,057
Issuance of common stock upon exercise of options	46,793	—	272	—	—	272
Issuance of common stock under the Employee Stock Purchase Plan	43,018	—	484	—	—	484
Stock-based compensation	—	—	8,282	—	—	8,282
Unrealized loss on available-for-sale debt securities	—	—	—	(42)	—	(42)
Net loss	—	—	—	—	(52,450)	(52,450)
Balances at June 30, 2021	36,894,414	$ 4	$ 501,474	$ 16	$ (302,891)	$ 198,603

Six Months Ended June 30, 2022	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at December 31, 2021	37,758,797	$ 4	$ 514,794	$ (102)	$ (359,767)	$ 154,929
Issuance of common stock through "at-the-market" offering, net of underwriter discount and issuance costs	700,000	—	3,509	—	—	3,509
Issuance of common stock upon exercise of options	16,666	—	76	—	—	76
Issuance of common stock under the Employee Stock Purchase Plan	115,973	—	177	—	—	177
Stock-based compensation	—	—	9,824	—	—	9,824
Unrealized loss on available-for-sale debt securities	—	—	—	(559)	—	(559)
Net loss	—	—	—	—	(52,753)	(52,753)
Balances at June 30, 2022	38,591,436	$ 4	$ 528,380	$ (661)	$ (412,520)	$ 115,203

See accompanying notes to the unaudited condensed financial statements.

Atreca, Inc.
Condensed Statements of Cash Flows
(in thousands)
(unaudited)

	Six Months Ended June 30,	
	2022	2021
Cash Flows from Operating Activities		
Net loss	$ (52,753)	$ (52,450)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	2,719	1,764
Amortization of operating right-of-use asset	785	—
Loss on disposal of property and equipment	—	11
Stock-based compensation	9,824	8,282
Amortization of discount or premium on available-for-sale securities	118	936
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(2,995)	(1,477)
Accounts payable	(1,298)	392
Accrued expenses	(3,692)	(1,763)
Other current liabilities	(59)	(730)
Deferred rent	—	16,274
Operating lease liabilities	(1,577)	—
Net cash used in operating activities	(48,928)	(28,761)
Cash Flows from Investing Activities		
Purchase of property and equipment	(496)	(28,961)
Purchase of investments	(51,585)	(14,921)
Proceeds from maturities of investments	28,951	104,531
Net cash provided by (used in) investing activities	(23,130)	60,649
Cash Flows from Financing Activities		
Proceeds from the issuance of common stock under the Employee Stock Purchase Plan	177	484
Proceeds from exercise of stock options	76	272
Proceeds from issuance of common shares in "at-the-market" equity offering, net of issuance costs	3,509	—
Principal payments on capital lease obligations	(4)	(24)
Net cash provided by financing activities	3,758	732
Net change in cash, cash equivalents and restricted cash	(68,300)	32,620
Cash, cash equivalents and restricted cash, beginning of period	96,204	62,441
Cash, cash equivalents and restricted cash, end of period	$ 27,904	$ 95,061

See accompanying notes to the unaudited condensed financial statements.

Atreca, Inc.
Condensed Statements of Cash Flows (continued)
(in thousands)
(unaudited)

	Six Months Ended June 30,	
	2022	2021
Supplemental Disclosure of Cash Flow Information		
Cash paid for interest	$ —	$ 1
Cash paid for income taxes	$ —	$ 1
Supplemental Schedule of Non-Cash Investing and Financing Activities		
Purchases of property and equipment included in accounts payable and accrued liabilities	$ 42	$ 5,394

See accompanying notes to the unaudited condensed financial statements.

Notes to Unaudited Interim Condensed Financial Statements

1. Business

Nature of Business

Atreca, Inc. (the "Company") was incorporated in the State of Delaware on June 11, 2010 ("inception date"), and is located in San Carlos, California. The Company is a biopharmaceutical company utilizing its differentiated platform to discover and develop novel antibody-based immunotherapeutics to treat a range of solid tumor types. The Company's lead product candidate, ATRC-101, is a monoclonal antibody in clinical development with a novel mechanism of action and target derived from an antibody identified using its discovery platform. In April 2022, the Company announced its next clinical candidate, ATRC-301. ATRC-301 is an antibody drug conjugate ("ADC") that selectively targets a novel, membrane-proximal epitope on erythropoietin-producing hepatocellular receptor A2. The Company operates in a single segment. Since inception, the Company has been primarily engaged in research and development, raising capital, building its management team and building its intellectual property portfolio.

2. Summary of Significant Accounting Policies

Basis of Presentation

The condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and include the accounts of the Company. Certain information and note disclosures normally included in the financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to the applicable rules and regulations of the Securities and Exchange Commission ("SEC"). Therefore, these unaudited condensed financial statements should be read in conjunction with the audited financial statements and related footnotes included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities, and reported amounts of income and expenses in the condensed financial statements and accompanying notes. Actual results could differ from those estimates. Key estimates in the condensed financial statements include estimated useful lives of property and equipment, impairment of long-lived assets, accrued expenses, valuation of deferred income tax assets, fair value of warrants issued to purchasers of shares of common stock and fair value of options granted under the Company's stock option plan.

Unaudited Interim Condensed Financial Statements

The accompanying condensed financial statements are unaudited. The unaudited interim condensed financial statements have been prepared on the same basis as the annual financial statements and reflect, in the opinion of management, all adjustments of a normal and recurring nature that are necessary for the fair statement of the Company's financial position as of June 30, 2022 and its results of operations for the three and six months ended June 30, 2022 and 2021, and statements of cash flows for the six months ended June 30, 2022 and 2021. The financial data and the other financial information contained in these notes to the condensed financial statements related to the three-month and six-month periods ended June 30, 2022 and 2021 are also unaudited. The results of operations for the three and six months ended June 30, 2022 are not necessarily indicative of the results to be expected for the year ending December 31, 2022 or for any other future annual or interim period. The balance sheet as of December 31, 2021 included herein was derived from the audited financial statements as of that date.

Other Income

Other income is comprised of amounts earned from services performed under service agreements. The Company follows the provisions of Accounting Standards Update 2014-09 Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers (*"Topic 606"*).* The guidance provides a unified model to determine how income is recognized.

In determining the appropriate amount of other income to be recognized as it fulfills its obligations under the agreements, the Company performs the following steps: (i) identifies the promised goods or services in the contract; (ii) determines whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; (iii) measures the transaction price, including the constraint on variable consideration; (iv) allocates the transaction price to the performance obligations based on estimated selling prices; and (v) recognizes other income when (or as) the Company satisfies each performance obligation.

The Company generally allocates the transaction price to distinct performance obligations at their stand-alone selling prices, determined by their estimated costs plus some margin. Performance obligations are generally delivered over time and recognized based upon observable inputs as the related research services are performed, which are recorded as research and development expenses. Amounts due under service agreements are generally billed monthly as services are delivered and do not generally result in contract liabilities or assets.

In February 2020, the Company entered into an agreement with an external partner for a research project to identify the antigenic targets of select antibodies discovered by the Company with potential utility in oncology. The nonrefundable upfront payment from this agreement was classified as a contract liability and the Company fully recognized the amount as other income over the service period of 18 months.

In March 2022, the Company entered into an agreement with a third party for the assignment of certain non-core intellectual property. The initial consideration was classified as other income and recognized upon completion of the assignment. The agreement provides for additional consideration in the event of commercial exploitation of the intellectual property. The term of the agreement extends to the date of expiration of the last to expire of any of the assigned patents. The Company recorded no receivables under service and license agreements as of June 30, 2022 and December 31, 2021. The Company recorded no contract liabilities as of both June 30, 2022 and December 31, 2021.

Collaborations

Historically, we have entered into a number of discovery collaborations as we developed our discovery platform. These collaborations have generally focused on identifying novel antibodies in areas of significant unmet medical need.

In July 2020, the Company entered into a Collaboration and License Agreement with Xencor, Inc. ("Xencor Agreement"), to research, develop and commercialize novel CD3 bispecific antibodies as potential therapeutics in oncology. Under the Xencor Agreement, the Company and Xencor, Inc. will engage in a three-year research program in which the Company will provide antibodies against novel tumor targets through its discovery platform from which Xencor, Inc. will engineer XmAb bispecific antibodies that also bind to the CD3 receptor on T cells. Up to two joint programs are eligible to be mutually selected for further development and commercialization, with each partner sharing 50% of costs and profits. Each company has the option to lead development, regulatory and commercialization activities for one of the joint programs. In addition, the Xencor Agreement allows each partner the option to pursue up to two programs independently, with a mid-to high-single digit percent royalty payable on net sales to the other partner.

The Company evaluated the Xencor Agreement under the provisions of Accounting Standard Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* and all related amendments (collectively, "ASC 606") and ASU 2018-18, *Collaborative Arrangements* (Topic 808) Clarifying the Interaction between Topic 808 and Topic 606. The Company concluded that Xencor, Inc. is not a customer as there are no distinct units of account that are reflective of a vendor-customer relationship or exchange of consideration for the research activities.

For the cost-sharing related to the research program, the Company will follow the presentation and disclosure guidance of ASC 808, *Collaboration Agreements*. The Company had $74,000 of payable and $25,000 of receivable under the research cost-sharing provision recorded in accrued expenses and prepaid and other current assets, respectively, on the accompanying condensed balance sheets as of June 30, 2022 and December 31, 2021, respectively.

In-Licensing Arrangements – Development

In April 2022, the Company entered into an Option and License Agreement (the "Option and License Agreement"), by and between the Company and Zymeworks Inc ("Zymeworks"). The Company received a license under certain of Zymeworks' proprietary drug conjugate patents and know-how to perform preclinical research and development of ADCs. The aggregate consideration for the research license is $5.0 million. The Company also received an option to obtain an exclusive license to research, develop, manufacture, and commercialize certain ADCs for additional license fees and royalties. Unless earlier terminated or extended, the term of the research license and the commercial option is two years from the effective date.

The Company will be required to use commercially reasonable efforts to develop and commercialize at least one licensed product and the Company will pay to Zymeworks an option exercise fee, and lump sum payments upon the achievement of certain development and regulatory milestones and commercial milestones. In addition, with respect to each licensed product, the Company will pay tiered royalties on net sales of licensed products at single-digit royalty rates.

The research license fee of $5.0 million was expensed to research and development expense during the quarter ended June 30, 2022 in accordance with the Company's research and development expense policy.

Employee Retention Credit

The Coronavirus Aid, Relief and Economic Security ("CARES") Act, as amended by the further legislation, provides an employee retention credit ("ERC") to eligible employers, which is a refundable tax credit against certain employment taxes. In calendar 2021, the ERC was equal to 70% of qualified wages paid to employees up to $10,000 of qualified wages per employee for each of the first, second and third calendar quarters of 2021. The Company has determined that its aggregate eligible refundable credit for 2021 is $2.9 million. During the quarter ended June 30, 2022, the Company filed the requisite claims for the eligible 2021 ERC.

The Company classified the ERC amounts as a reduction to payroll expense. During the three and six months ended June 30, 2022, the Company recorded $2.4 million and $0.5 million related to the ERC within research and development expense and G&A expense, respectively, on the Company's condensed statement of operations and comprehensive loss. As of June 30, 2022, the Company has a $2.9 million receivable balance from the United States government related to the CARES Act, which is recorded as other receivables in "Prepaid expenses and other current assets" on the Company's condensed balance sheet.

Cash, Cash Equivalents and Restricted Cash

Cash and cash equivalents include all cash balances and highly liquid investments purchased with an original maturity of three months or less.

The Company maintained restricted cash of $1.5 million as of both June 30, 2022 and December 31, 2021. This amount as of June 30, 2022 and December 31, 2021 is included in deposits and other in the accompanying condensed balance sheets and is comprised solely of letters of credit required pursuant to leases for Company facilities.

The Company's reconciliation of cash and cash equivalents and restricted cash reported within the condensed balance sheets that sum to the total of the same amounts shown in the condensed statements of cash flows were as follows (in thousands):

	June 30, 2022	December 31, 2021
Cash and cash equivalents	$ 26,446	$ 94,746
Restricted cash	1,458	1,458
Cash, cash equivalents and restricted cash shown in the condensed statements of cash flows	$ 27,904	$ 96,204

Investments

The Company considers securities purchased with original maturities greater than three months to be investments. The Company's policy is to protect the value of its investment portfolio and minimize principal risk by earning returns based on current interest rates. The Company's intent is to convert all investments into cash to be used for operations and has classified them as available for sale. For purposes of determining realized gains and losses, the cost of debt securities sold is based on specific identification. Interest and dividends on securities classified as available-for-sale are included in interest income.

Leases

The Company determines if an arrangement is, or contains, a lease at inception. The Company measures lease liabilities based on the present value of lease payments over the lease term. As the Company's leases generally do not provide an implicit discount rate, the net present value of future minimum lease payments is determined using the Company's incremental borrowing rate. Options in the lease terms to extend or terminate the lease are not reflected in the lease liabilities unless it is reasonably certain that any such option will be exercised.

The Company measures right-of-use assets at the lease commencement date based on the corresponding lease liabilities adjusted for (i) prepayments made to the lessor at or before the commencement date, (ii) initial direct costs incurred and (iii) certain tenant incentives under the lease. The Company evaluates the recoverability of the right-of-use assets for possible impairment in accordance with the long-lived assets policy. The Company has elected not to recognize right-of-use assets or lease liabilities for leases with an initial lease term of twelve months or less.

The Company's lease agreements do not contain residual value guarantees or covenants. Lease expense is recognized on a straight-line basis over the terms of the leases. Incentives granted under the Company's facilities lease, including rent holidays, are recognized as adjustments to lease expense on a straight-line basis over the terms of the leases.

Risks and Uncertainties

The Company is subject to a number of risks associated with companies at a similar stage, including COVID-19, dependence on key individuals, competition from similar services and larger companies, volatility of the industry, ability to obtain regulatory clearance, ability to obtain adequate financing to support growth, the ability to attract and retain additional qualified personnel to manage the anticipated growth of the Company and general economic conditions.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist of cash and cash equivalents, investments and other receivables. Cash and cash equivalents are held at three financial institutions and were in excess of the Federal Deposit Insurance Corporation insurable limit at June 30, 2022 and December 31, 2021. Additionally, cash and cash equivalents and investments are maintained at brokerage firms for which amounts are

insured by the Securities Investor Protection Corporation subject to legal limits. The Company has not experienced any losses on its deposits to date.

The Company does not require collateral or other security for other receivables; however, credit risk is mitigated by the Company's ongoing evaluations of its debtors' credit worthiness.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs consist primarily of salaries and benefits, consultant fees, stock-based compensation, certain facility costs, legal costs and other costs associated with preclinical and clinical development.

A substantial portion of the Company's ongoing research and development activities are conducted by third-party service providers in connection with preclinical and clinical development activities and contract manufacturing organizations in connection with the production of materials for clinical trials. At the end of the reporting period, the Company compares payments made to third-party service providers to the estimated progress toward completion of the research or development objectives. Such estimates are subject to change as additional information becomes available. Depending on the timing of payments to the service providers and the progress that the Company estimates has been made as a result of the service provided, the Company may record net prepaid or accrued expense relating to these costs.

Stock-Based Compensation

The Company generally grants stock options to its employees for a fixed number of shares with an exercise price equal to the fair value of the underlying shares at the date of grant. The Company accounts for stock option grants using the fair value method. The fair value of options is calculated using the Black-Scholes option pricing model. For restricted stock units, fair value is based on the closing price of the Company's Class A common stock on the grant date. Stock-based compensation is recognized as the underlying options vest using the straight-line attribution approach, and forfeitures are recorded as they occur.

Emerging Growth Company Status

The Company is an "emerging growth company," ("EGC") as defined in the Jumpstart Our Business Startups Act, ("JOBS Act"), and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not EGCs. The Company may take advantage of these exemptions until it is no longer an EGC under Section 107 of the JOBS Act, which provides that an EGC can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. The Company has elected to use the extended transition period for complying with new or revised accounting standards, and as a result of this election, the Company's condensed financial statements may not be comparable to companies that comply with public company Financial Accounting Standards Board ("FASB") standards' effective dates. The Company may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of the IPO or such earlier time that the Company is no longer an EGC.

Recently Adopted Accounting Pronouncements

In February 2016, the FASB issued ASU 2016 02 and subsequent amendments to the initial guidance under ASU 2017-13, ASU 2018-10, ASU 2018-11, and ASU 2019-01 (collectively, "Topic 842"), which modifies the accounting by lessees for all leases with a term greater than 12 months. This standard requires lessees to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases. The Company adopted the new lease accounting standard on January 1, 2022, using the modified retrospective transition method. The Company implemented processes, and internal controls to enable the preparation of financial information. The adoption of this standard had a material impact on the Company's condensed balance sheet, with the recognition of right-of-use assets and corresponding lease liabilities in the amounts of $37.7 million and $67.1 million respectively, and the derecognition of approximately $10.9 million of deferred rent and $19.1 million of tenant improvement incentives. The adoption of this standard did not have a material impact on the Company's condensed statements of operations or cash flows. The

Company provided detailed right-of-use asset and liability disclosures as required by the new standard in the notes to the Company's condensed financial statements under Note 8 Leases. The Company adopted the transitional provisions allowed under ASU 2018-11 and as such, the condensed balance sheets and condensed statements of operations for prior periods are not comparable in the year of adoption of ASU 2016-02.

Recent Accounting Pronouncements Not Yet Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses* (*"Topic 326"*): *Measurement of Credit Losses on Financial Instruments* and subsequent amendments to the initial guidance under ASU 2018-19, ASU 2019-04, ASU 2019-05, and ASU 2020-02 which amends the current approach to estimate credit losses on certain financial assets, including trade and other receivables. The amendment replaces the existing incurred loss impairment model with an expected loss methodology, which will result in more timely recognition of credit losses. For available-for-sale debt securities, credit losses should be recorded through an allowance for credit losses. *Topic 326* is effective for the Company as of January 1, 2023. Early adoption is permitted. The Company is currently evaluating the impact the adoption of this standard will have on its financial statements and related disclosures.

3. Fair Value of Financial Instruments

The fair value of the Company's assets and liabilities, which qualify as financial instruments under FASB ASC 820, *Fair Value Measurements and Disclosures*, approximates their carrying value represented in the condensed balance sheets. The Company's financial assets and liabilities subject to fair value measurements on a recurring basis and the level of inputs used for such measurements were as follows (in thousands):

	June 30, 2022			
	Level 1	Level 2	Level 3	Total
Assets				
Money market funds	$ 22,134	$ —	$ —	$ 22,134
Certificates of deposit	1,414	—	—	1,414
U.S. Treasury securities	73,872	—	—	73,872
Total	$ 97,420	$ —	$ —	$ 97,420

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets				
Money market funds	$ 90,251	$ —	$ —	$ 90,251
Certificates of deposit	1,672	—	—	1,672
Corporate debt securities	—	6,089	—	6,089
U.S. Treasury securities	45,568	—	—	45,568
Total	$ 137,491	$ 6,089	$ —	$ 143,580

The Company utilized the market approach and Level 1 valuation inputs to value its money market funds, certificates of deposit, and U.S. government treasury securities because published fair market values were readily available. The Company measured the fair value of corporate debt securities using Level 2 valuation inputs, which are based on quoted prices and market observable data of similar instruments. As of both June 30, 2022 and December 31, 2021, the remaining contractual maturity of all marketable securities was less than two years.

4. Cash, Cash Equivalents and Investments

The fair value and the amortized cost of cash, cash equivalents and available-for-sale investments by major security type consist of the following (in thousands):

June 30, 2022	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Cash and Cash Equivalents	Short-term Investment	Long-term Investment
Cash, cash equivalents and money market funds	$ 26,446	$ —	$ —	$ 26,446	$ 26,446	$ —	$ —
Available-for-sale:							
U.S. Treasury securities	74,523	—	(651)	73,872	—	73,872	—
Certificates of deposit	1,424	—	(10)	1,414	—	1,414	—
Total	$ 102,393	$ —	$ (661)	$ 101,732	$ 26,446	$ 75,286	$ —

December 31, 2021	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Cash and Cash Equivalents	Short-term Investment	Long-term Investment
Cash, cash equivalents and money market funds	$ 94,746	$ —	$ —	$ 94,746	$ 94,746	$ —	$ —
Available-for-sale:							
U.S. Treasury securities	45,665	—	(97)	45,568	—	15,015	30,554
Corporate debt securities	6,093	—	(4)	6,089	—	6,089	—
Certificates of deposit	1,673	—	(1)	1,672	—	1,184	488
Total	$ 148,177	$ —	$ (102)	$ 148,075	$ 94,746	$ 22,287	$ 31,042

The Company evaluated the securities for other-than-temporary impairment and considered the decline in market value for the securities to be primarily attributable to current economic and market conditions. It is not more likely than not that the Company will be required to sell the securities, and the Company has no intention to do so prior to the recovery of the amortized cost basis. Based on this analysis, these marketable securities were not considered to be other-than-temporarily impaired as of June 30, 2022.

5. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following (in thousands):

	June 30, 2022	December 31, 2021
Vendor prepayments and deposits	$ 2,462	$ 2,681
Prepaid insurance	2,007	1,531
Prepaid facility maintenance fee	318	807
Other receivables	2,979	—
Interest receivables and other current assets	141	318
Total prepaid expenses and other current assets	$ 7,907	$ 5,337

6. Property and Equipment, net

Property and equipment, net consists of the following (in thousands):

	June 30, 2022	December 31, 2021
Laboratory equipment	$ 13,559	$ 13,128
Furniture and fixtures	1,929	1,897
Computer hardware and software	1,438	1,433
Leasehold improvements	37,908	37,871
	54,834	54,329
Less accumulated depreciation and amortization	(14,033)	(11,314)
Total property and equipment, net	$ 40,801	$ 43,015

Depreciation and amortization expense was $1.4 million and $1.2 million for the three months ended June 30, 2022 and 2021, respectively and $2.7 million and $1.8 million for the six months ended June 30, 2022 and 2021, respectively.

7. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	June 30, 2022	December 31, 2021
Compensation and related benefits	$ 2,853	$ 4,866
Research license fees	3,000	—
Contract research fees	1,374	5,521
Professional fees	104	189
Accrued cease-use liabilities	—	475
Other	554	504
Total accrued expenses	$ 7,885	$ 11,555

8. Leases

The Company leases its office facilities under non-cancellable operating lease agreements that expire at various dates through April 2033. Under the terms of the leases, the Company is responsible for certain insurance, property taxes and maintenance expenses. The office facilities lease agreements contain scheduled increases over the lease term. The Company was not party to any finance leases as of June 30, 2022.

The Company vacated its former office space in September 2021, prior to the expiration of the lease in March 2022. The remaining rent payable, deferred rent and associated prepaid rent for the former office space were expensed in full on September 30, 2021 and resulted in a charge of $1.5 million, recorded as a general and administrative operating expense in the Company’s condensed statement of operations. The associated cease-use liability was settled by March 2022 and the lease was terminated.

The Company's future lease payments as of June 30, 2022, which are presented as current portion of operating lease liabilities, and operating lease liabilities, net of current portion on the Company's condensed balance sheets (in thousands, except weighted-average data) are as follows:

Periods	Operating Leases
2022 - remainder	$ 3,740
2023	7,635
2024	7,846
2025	8,064
2026	8,288
Thereafter	57,290
Total lease payments	$ 92,863
Less: imputed interest	(27,378)
Present value of lease liabilities	$ 65,485
Lease liabilities, current	3,327
Lease liabilities, noncurrent	62,158
Total lease liabilities	$ 65,485
Weighted-average remaining lease term (in years)	10.9
Weighted-average discount rate	6.64%

Lease expense under the Company's operating leases was $1.5 million for the three months ended June 30, 2022 and $2.9 million for the six months ended June 30, 2022. Variable lease expense for operating leases was $0.9 million and $1.6 million for the three months and six months ended June 30, 2022, respectively. Rent expense recognized under ASC 840, inclusive of operating and maintenance costs, was $4.1 million during the three months ended June 30, 2021 and $8.0 million during the six months ended June 30, 2021.

Cash paid for amounts included in the measurement of lease liabilities for the three months ended June 30, 2022 was $1.9 million and the six months ended June 30, 2022 was $3.8 million.

Practical Expedients

Leases with an initial term of 12 months or less are not recorded on the condensed balance sheets. The Company recognizes the lease expense for such leases on a straight-line basis over the lease term.

The Company has elected to account for lease (e.g., fixed payments including rent) and non-lease components (e.g., common-area maintenance costs) as a single combined lease component under ASC 842 as the lease components are the predominant elements of the combined components.

As part of the transition to ASC 842, the Company elected to use the modified retrospective transition method with the new standard being applied as of the January 1, 2022 adoption date. Additionally, the Company has elected, as of the adoption date, not to reassess whether expired or existing contracts contain leases under the new definition of a lease, not to reassess the lease classification for expired or existing leases, and not to reassess whether previously capitalized initial direct costs would qualify for capitalization under ASC 842.

9. Commitments and Contingencies

Litigation

The Company is not aware of any asserted or unasserted claims against it where it believes that an unfavorable resolution would have an adverse material impact on the operations or financial position of the Company.

10. Reorganization and Other Charges

On June 1, 2022, the Company implemented and announced a corporate reorganization of its operations. In connection with the reorganization, the Company undertook a workforce reduction and recorded severance and employee benefits charges of $0.7 million to operating expenses in the quarter ending June 30, 2022.

As of June 30, 2022, there was no outstanding liability related to severance and employee benefit charges. The Company recognized these charges during the three months ended June 30, 2022 and does not expect to incur any material additional costs related to the reorganization.

11. Capital Stock

Class A and Class B Common Stock

On June 2, 2019 the board of directors of the Company authorized the issuance of 650,000,000 shares of Class A common stock, $0.0001 par value per share, 50,000,000 shares of Class B common stock, $0.0001 par value per share and 300,000,000 shares of preferred stock, $0.0001 par value per share, upon the filing of the Company's Amended and Restated Certificate of Incorporation in connection with the reverse stock split. Each holder of Class A common stock is entitled to one vote and each holder of Class B common stock is not entitled to vote except as may be required by law and shall not be entitled to vote on the election of directors at any time.

Sales Agreement

In August 2020, the Company entered into a sales agreement ("Sales Agreement") with Cowen and Company, LLC ("Cowen"), pursuant to which the Company may, upon the terms and subject to the conditions set forth therein, issue and sell through Cowen, acting as the Company's sales agent and/or principal, shares of the Company's Class A common stock, having an aggregate offering price of up to $100.0 million (the "ATM Shares"). The Company has no obligations to sell any ATM Shares under the Sales Agreement. The Sales Agreement provides that Cowen will be entitled to compensation for its services in an amount equal to up to 3.0% of gross proceeds for each time we issue and sell ATM Shares under the Sales Agreement. The ATM Shares will be sold based on prevailing market prices at the time of the sale, and, as a result, prices may vary. Unless otherwise terminated earlier, the Sales Agreement continues until all shares available under the Sales Agreement have been sold. As of June 30, 2022, the Company issued and sold 1,493,361 shares of our Class A common stock. Net proceeds from the sales were $7.9 million after deducting underwriting fees of $0.3 million and issuance costs of $0.3 million.

12. Equity Incentive Plans

2019 Equity Incentive Plan

The Company's board of directors adopted and our stockholders approved our 2019 Equity Incentive Plan (the "2019 Plan") on June 2, 2019, and June 7, 2019, respectively. The 2019 Plan became effective on June 19, 2019, and no further grants will be made under the Company's 2010 Equity Incentive Plan (the "2010 Plan"). The purpose of the 2019 Plan, through the grant of stock awards including stock options and other stock-based awards, including restricted stock units ("RSUs"), is to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for our success and that of the Company's affiliates, and provide a means by which the eligible recipients may benefit from increases in the value of the Company's Class A common stock.

Stock Option Repricing

Effective June 13, 2022, the Company's board of directors approved a one-time repricing of previously granted and outstanding vested and unvested stock options with exercise prices greater than or equal to $9.00 per share under the 2010 Plan and the 2019 Plan held by eligible employees. As a result, the exercise price for these awards was modified to $1.845 per share, which was the closing price of the Company's common stock as reported on the Nasdaq Global Select Market on June 13, 2022. No other terms of the repriced stock options were modified, and the repriced stock options will continue to vest according to their original vesting schedules and will retain their original expiration dates. As a result of the repricing, 3,606,163 vested and unvested stock options outstanding as of June 13, 2022 with original exercise prices ranging from $9.87 to $22.10, were repriced.

The repricing resulted in incremental stock-based compensation expense of $2.6 million, of which $1.6 million related to vested stock option awards and was expensed on the repricing date, and $1.0 million related to unvested stock option awards is being amortized on a straight-line basis over the remaining weighted-average vesting period of those awards of approximately 1.5 years.

Stock Options

Stock option activity under the 2019 Plan and the Company's 2010 Plan is as follow:

	Options Outstanding			
	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in thousands)
Balances, December 31, 2021	7,162,676	$ 11.25	8.2	$ 21
Granted	404,700	1.93		
Exercised	(16,666)	4.56		
Cancelled	(422,345)	10.95		
Balances, June 30, 2022	7,128,365	$ 3.87	7.8	$ 19
Vested and expected to vest at June 30, 2022	7,128,365	$ 3.87	7.8	$ 19
Exercisable at June 30, 2022	3,984,931	$ 4.58	7.0	$ 10
Vested at June 30, 2022	3,984,931	$ 4.58	7.0	$ 10

The weighted-average exercise price, weighted-average remaining contractual life and aggregate intrinsic value as of June 30, 2022 reflect the impact of the stock option repricing discussed above. The weighted-average grant date fair value of options granted in the six months ended June 30, 2022 and 2021 was $1.40 and $9.98, respectively. The fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model, assuming no expected dividends and the following weighted average assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Expected life (in years)	5.87	5.87	5.88	5.97
Volatility	86.0 %	89.5 %	85.9 %	91.4 %
Risk-free interest rate	3.2 %	1.0 %	3.2 %	0.6 %

Expected volatility is based on volatilities of public peer companies operating in the Company's industry. The expected life of the options is estimated using the simplified method detailed in SEC Staff Accounting Bulletin No. 107. The simplified method calculates the expected term as the mid-point between the weighted-average time to vesting and the contractual maturity. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant. The Company has elected to account for forfeitures as they occur, rather than estimate expected forfeitures.

Restricted Stock Units

The 2019 Plan provides for the issuance of RSUs to employees, directors and consultants. RSUs vest over a period of two years with 50% vesting on the one year anniversary of the award and the remainder vesting on the two year anniversary of the award.

The following table summarizes RSU activity for the six months ended June 30, 2022:

	Number of Shares	Weighted-Average Grant Date Fair Value per RSU
Unvested Balances, December 31, 2021	867,730	$ 6.15
RSUs Cancelled	(78,340)	6.15
Unvested Balances, June 30, 2022	789,390	$ 6.15

2019 Employee Stock Purchase Plan

The Company's board of directors adopted the 2019 Employee Stock Purchase Plan ("ESPP") on June 2, 2019, and the Company's stockholders approved the ESPP on June 7, 2019. During the three months ended June 30, 2022 and 2021, the expense related to the ESPP was $0.2 million in both periods. During the six months ended June 30, 2022 and 2021, the expense related to the ESPP was $0.5 million and $0.4 million, respectively. The fair value of each ESPP is estimated on the date of grant using the Black-Scholes option pricing model, assuming no expected dividends and the following range of assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Expected life (in years)	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0
Volatility	79.0 - 89.9 %	93.9 - 107.6 %	79.0 - 89.9 %	93.9 - 107.6 %
Risk-free interest rate	0.6 - 1.3 %	0.1 %	0.6 - 1.3 %	0.1 %

The Company recognized $5.5 million and $3.9 million of stock-based compensation expense related to the 2019 Plan, 2010 Plan, and ESPP for the three months ended June 30, 2022 and 2021, respectively. The Company recognized $9.8 million and $8.3 million of stock-based compensation expense related to the 2019 Plan, 2010 Plan, and ESPP for the six months ended June 30, 2022 and 2021, respectively. The compensation expense is allocated on a departmental basis, based on the classification of the option holder, as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Research and development	$ 2,639	$ 1,918	$ 4,707	$ 4,134
General and administrative	2,848	1,964	5,117	4,148
	$ 5,487	$ 3,882	$ 9,824	$ 8,282

No income tax benefits have been recognized in the condensed statements of operations for stock-based compensation arrangements and no stock-based compensation costs have been capitalized as property and equipment as of June 30, 2022.

Unrecognized compensation expense as of June 30, 2022 totaled $21.1 million related to non-vested stock options with a remaining weighted-average requisite service period of 2.1 years and $2.8 million related to non-vested RSUs with a remaining weighted-average requisite service period of 1.2 years.

13. 401(k) Plan

The Company has a 401(k) plan that qualifies as a deferred compensation arrangement under Section 401 of the Code. Eligible employees may elect to defer a portion of their pretax earnings subject to certain statutory limits. Beginning January 1, 2021, the Company matches 100% up to the first $5,000 contributed by a participant. All matching contributions are immediately vested. Total matching contributions to the 401(k) Plan were $0.1 million for both of the three months ended June 30, 2022 and 2021 and $0.5 million for both of the six months ended June 30, 2022 and 2021.

14. Net Loss Per Share

The following outstanding potentially dilutive common shares were excluded from the computation of diluted net loss per share for the periods presented because the impact of including them would have been antidilutive:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Common stock options	7,128,365	6,050,128	7,128,365	6,050,128
Unvested restricted stock units	835,980	—	835,980	—
Common stock warrants	49,997	49,997	49,997	49,997
	8,014,342	6,100,125	8,014,342	6,100,125

15. Related Party Transactions

The Company recorded expense of $0.2 million during each of the three months ended June 30, 2022 and 2021, and $0.6 million during each of the six months ended June 30 2022 and 2021, related to intellectual property and other legal services performed by a related party. The Company has a payable of $0.1 million and $0.2 million to the related party at June 30, 2022 and December 31, 2021, respectively.

The Company recorded expense of $0.3 million and $0.2 million during the three months ended June 30, 2022 and 2021, respectively, and $0.8 million and $0.4 million during the six months ended June 30, 2022 and 2021, respectively, related to legal services performed by a related party. The Company has a payable of $0.1 million to the related party as of both June 30, 2022 and December 31, 2021.

The Company recorded research and development expense of $63,000 during each of the three months ended June 30, 2022 and 2021, and $0.1 million during each of the six months ended June 30, 2022 and 2021 under consulting agreements with a member of the Company’s board of directors. The Company has a payable of $74,000 to the member of the Company’s board of directors as of both June 30, 2022 and December 31, 2021.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations together with (1) our unaudited condensed financial statements and related notes appearing in Part I, Item I of this Quarterly Report on Form 10-Q and (2) the audited financial statements and the related notes and the discussion in Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" for the fiscal year ended December 31, 2021 included in our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Securities and Exchange Commission, or SEC, on March 3, 2022, or 2021 Form 10-K.

Special Note Regarding Forward-Looking Statements

The following discussion and this Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and within the meaning of the Private Securities Litigation Reform Act of 1995. You can identify forward-looking statements by the use of the words "believe," "expect," "anticipate," "intend," "estimate," "project," "will," "should," "may," "plan," "assume" and other expressions that predict or indicate future events and trends and which do not relate to historical matters. You should not rely on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, some of which are beyond our control. These risks, uncertainties and other factors may cause our actual results, performance or achievements to be materially different from our anticipated future results, performance or achievements expressed or implied by the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section titled "Risk Factors," set forth in Part II, Item 1A of this Quarterly Report on Form 10-Q. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Quarterly Report on Form 10-Q, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate we have conducted exhaustive inquiry into, or review of, all potentially available relevant information. We anticipate that subsequent events and developments will cause our views to change. New risks emerge from time to time, and it is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. While we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Quarterly Report on Form 10-Q and are cautioned not to place undue reliance on such forward-looking statements.

Overview

We are a clinical-stage biopharmaceutical company utilizing our differentiated platform to discover and develop novel antibody-based therapeutics to treat a range of solid tumor types. While more traditional oncology drug discovery approaches attempt to generate antibodies against known targets, our approach relies on the human immune system to direct us to unique antibody-target pairs from patients experiencing a clinically meaningful, active immune response against their tumors. These unique antibody-target pairs represent a potentially novel and previously unexplored landscape of oncology targets. We believe the fact that our approach has the potential to deliver novel, previously unexplored oncology targets provides us with a significant competitive advantage over traditional approaches which focus on known targets that many companies are aware of and can pursue. We have utilized our drug discovery approach to identify over 2,000 distinct human antibodies that bind preferentially to tumor tissue from patients who are not the source of the antibody.

Our lead product candidate, ATRC-101, is a monoclonal antibody with a novel mechanism of action and target derived from an antibody identified using our discovery platform. ATRC-101 reacts in vitro with a majority of human ovarian, non-small cell lung, colorectal and breast cancer samples from multiple patients. It has demonstrated robust anti-tumor activity as a single agent in multiple preclinical models, including one model in which PD-1 checkpoint inhibitors typically display limited activity. In 2020, we commenced clinical development of ATRC-101 with a Phase 1b clinical trial evaluating ATRC-101 as a monotherapy in patients with select solid tumors which is ongoing, and in 2021

we expanded clinical development by opening a new cohort to evaluate ATRC-101 in combination with pembrolizumab, a PD-1 checkpoint inhibitor. ATRC-101 has been well-tolerated to date, with no dose-limiting toxicities in the monotherapy or combination cohorts. Enrollment in both cohorts is ongoing, and we expect additional data from both cohorts in the second half of 2022.

Our efforts beyond ATRC-101 are focused on expanding our clinical pipeline by advancing additional product candidates using our large library of hit antibodies that bind preferentially to tumor tissue across patients. To that end, in April 2022, we provided an update on our preclinical pipeline in oncology, which includes our next clinical candidate, ATRC-301. ATRC-301 is an antibody drug conjugate, or ADC, that selectively targets a novel, membrane-proximal epitope on erythropoietin-producing hepatocellular receptor A2, or EphA2. EphA2 is a validated and potentially high value target that is widely expressed across several types of cancer, and ATRC-301 has demonstrated potent, dose-dependent in vivo tumor regression in mice with no significant toxicity signals yet observed in murine models. We have initiated IND-enabling studies for ATRC-301, including a non-human primate toxicology study with results expected in the second half of 2022. We anticipate filing an Investigational New Drug, or IND, application for ATRC-301 in the second half of 2023. Via internal efforts and partnerships, we are both continuing to develop our platform and combining the novel antibodies that are generated by our platform with antibody weaponization technologies.

We commenced operations in 2010 and have since devoted substantially all our resources to research and development, identifying product candidates, undertaking preclinical studies, conducting clinical trials, raising capital, building our management team and building our intellectual property portfolio. We do not have any products approved for marketing or sale and have not generated any revenue from product sales. Our ability to generate product revenue sufficient to achieve or sustain profitability will depend on the successful development, regulatory approval and eventual commercialization of one or more of our current or future product candidates.

To date, we have financed our operations primarily through equity offerings of our securities. Our net losses were $27.9 million and $26.7 million for the three months ended June 30, 2022 and 2021, respectively and $52.8 million and $52.5 million for the six months ended June 30, 2022 and 2021, respectively. As of June 30, 2022, we had an accumulated deficit of $412.5 million. We anticipate that a substantial portion of our capital resources and efforts in the foreseeable future will be focused on discovering, completing the necessary development, obtaining regulatory approval for and preparing for potential commercialization of product candidates. As of June 30, 2022, we had cash, cash equivalents and investments of $101.7 million.

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. Our net losses may fluctuate significantly from period to period, depending on the timing of our planned preclinical studies and clinical trials and expenditures on other research and development activities. We expect our expenses will increase over time as we:

- complete clinical trials for ATRC-101 and advance preclinical studies on ATRC-301 and any other additional product candidates that we may pursue in the future;
- continue research and development to expand our growing library of more than 2,000 antibodies and develop potential future product candidates from that collection;
- continue to invest in advancing our differentiated discovery platform, and the underlying technologies;
- seek marketing approvals for product candidates that successfully complete clinical trials;
- maintain, protect and expand our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- implement additional operational, financial and management systems; and
- attract, hire and retain additional administrative, clinical, regulatory and research personnel.

Impact of COVID-19

In response to the COVID-19 pandemic, we have taken, and continue to take, proactive measures to prioritize health and safety, including of our employees and other personnel, and to maintain business continuity. We transitioned to a fully remote working environment in March 2020 and re-opened for certain personnel in June 2020 and for additional personnel in July 2021. In April 2022, the majority of our personnel resumed working on site. All onsite

personnel are required to adhere to our COVID-19 safety protocols for their protection. In addition, in our clinical trial for ATRC-101, we experienced delays related to COVID-19 in 2020 and 2021, and we continue to experience such delays in 2022, primarily in enrolling and treating patients due to COVID-19 infections and resulting site staff shortages.

To date, the COVID-19 pandemic has not had a material adverse impact on our productivity or our business, and as of June 30, 2022, we have not identified any significant disruption or impairment of our assets due to the pandemic. However, we cannot predict the potential future impacts of COVID-19, including its variants, on us and third parties with whom we conduct business, including on our clinical studies and our clinical trial for ATRC-101 and related timelines, as well as our preclinical activities. These impacts will depend on future developments that are highly uncertain and cannot be predicted with confidence, such as the duration and spread of COVID-19, including its variants, and the effectiveness of actions taken in the United States and other countries to contain, vaccinate against, and treat the disease and other factors identified in Part II, Item 1A. “Risk Factors” in this Quarterly Report on Form 10-Q. Given these uncertainties, COVID-19 and related global economic conditions could impact our business operations and our ability to execute on our associated business strategies and initiatives, and adversely impact our results of operations and our financial condition in the future, and could disrupt the business of third parties with whom we do business, including our existing and potential future collaborators. We will continue to closely monitor and evaluate the nature and extent of the impacts of COVID-19 on our business, results of operations, and financial condition.

Financial Operations Overview

Revenue

We have no products approved for marketing or commercial sale and have never generated any revenue from product sales.

Operating Expenses

Research and Development

Research and development expenses represent costs incurred in performing research, development and manufacturing activities in support of our own product development efforts, salaries, employee benefits and stock-based compensation for personnel contributing to research and development activities, laboratory supplies, outsourced research and development expenses, professional services and allocated facilities-related costs. We expect our research and development expenses to increase in the foreseeable future as we continue to invest in our differentiated discovery platform to expand our pipeline of product candidates, advance our product candidates into and through preclinical studies and clinical trials and pursue regulatory approval of our product candidates.

General and Administrative

Our general and administrative expenses consist primarily of personnel costs, allocated facilities costs and other expenses for outside professional services, including legal, human resource, audit and accounting services. We expect to incur additional general and administrative expenses as we continue to support the growth of our business and incur the costs of compliance associated with being a public company.

Interest and Other Income (Expense)

Interest and other income (expense) includes amounts received from partners for research and discovery services and for assignment to other parties of non-core intellectual property, interest income earned on our cash, cash equivalents and investments, interest expense and gains or losses on the periodic disposals of property and equipment.

Results of Operations

Comparison of the three months ended June 30, 2022 and 2021

The following table summarizes our results of operations during the respective periods:

	Three Months Ended June 30,		Change	
	2022	2021	$	%
	(in thousands)			
Operating expenses:				
Research and development	$ 19,953	$ 19,036	$ 917	5 %
General and administrative	8,077	8,031	46	1 %
Total operating expenses	28,030	27,067	963	4 %
Operating Loss	(28,030)	(27,067)	(963)	4 %
Other income (expense), net:				
Other income	—	349	(349)	(100)%
Interest income	153	56	97	173 %
Interest expense	—	(1)	1	*
Loss on disposal of property and equipment	—	(11)	11	*
Total other income, net	153	393	(240)	(61)%
Income tax expense	—	(1)	1	*
Net Loss	$ (27,877)	$ (26,675)	$ (1,202)	5 %

* Not meaningful

Research and Development

The following table summarizes our research and development expenses incurred during the respective periods:

	Three Months Ended June 30,	
	2022	2021
	(in thousands)	
Personnel related (including stock-based compensation)	$ 6,157	$ 7,654
Product and other contract services	3,384	3,583
Laboratory supplies and equipment	1,826	2,394
Consulting, legal and other services	511	850
Research license fees	5,000	—
Facility related	1,940	3,553
Other	1,135	1,002
Total research and development expenses	$ 19,953	$ 19,036

Research and development expenses increased by $0.9 million, or 5%, during the three months ended June 30, 2022 compared to the same period in 2021. The increase was primarily attributable to a $5.0 million research license fee to perform preclinical research and development of ADCs, offset by a lower facility related cost of $1.6 million due to the consolidation to the single San Carlos location, a $1.5 million decrease in personnel related expense due to restructuring and terminations, and a $0.6 million decrease in laboratory supplies and equipment due to a lower headcount.

General and Administrative

The following table summarizes our general and administrative expenses incurred during the respective periods:

	Three Months Ended June 30,	
	2022	2021
	(in thousands)	
Personnel related (including stock-based compensation)	$ 4,524	$ 4,373
Consulting, legal and other services	1,098	880
Facility related	672	1,106
Other	1,783	1,672
Total general and administrative expenses	$ 8,077	$ 8,031

General and administrative expenses increased by $46,000, or 1%, during the three months ended June 30, 2022 compared to the same period in 2021.

Other Income

Other income is comprised of amounts earned from research and discovery services provided to partners under service agreements and assignment to third parties of non-core intellectual property. Other income decreased by $0.3 million during the three months ended June 30, 2022 compared to the same period in 2021 due to the completion of the services provided to a third party partner.

Interest Income

Interest income increased to $153,000 during the three months ended June 30, 2022 as compared to $56,000 during the three months ended June 30, 2021 due primarily to an increase in interest rates, partially offset by a decrease in the investment balance.

Interest Expense

Interest expense during the three months ended June 30, 2022 and 2021 pertained to the interest portion of payments made on capital leases under which we acquired certain property and equipment.

Comparison of the six months ended June 30, 2022 and 2021

The following table summarizes our results of operations during the respective periods:

	Six Months Ended June 30,		Change	
	2022	2021	$	%
	(in thousands)			
Operating expenses:				
Research and development	$ 37,017	$ 37,424	$ (407)	(1)%
General and administrative	16,683	15,852	831	5 %
Total operating expenses	53,700	53,276	424	1 %
Operating Loss	(53,700)	(53,276)	(424)	1 %
Other income (expense), net:				
Other income	750	693	57	8 %
Interest income	197	147	50	34 %
Interest expense	—	(2)	2	*
Loss on disposal of property and equipment	—	(11)	11	*
Total other income, net	947	827	120	15 %
Income tax expense	—	(1)	1	*
Net Loss	$ (52,753)	$ (52,450)	$ (303)	1 %

* Not meaningful

Research and Development

The following table summarizes our research and development expenses incurred during the respective periods:

	Six Months Ended June 30,	
	2022	2021
	(in thousands)	
Personnel related (including stock-based compensation)	$ 14,365	$ 16,042
Product and other contract services	6,591	6,426
Laboratory supplies and equipment	4,065	4,747
Consulting, legal and other services	1,029	2,010
Research license fees	5,000	—
Facility related	3,783	6,680
Other	2,184	1,519
Total research and development expenses	$ 37,017	$ 37,424

Research and development expenses decreased by $0.4 million, or 1%, during the six months ended June 30, 2022 compared to the same period in 2021. The decrease was primarily attributable to a lower facility related cost of $2.9 million due to the consolidation to the single San Carlos location, a $1.7 million decrease in personnel related expense due to restructuring and terminations, a $1.0 million decrease in consulting, legal and other services, offset by a $5.0 million research license fee to perform preclinical research and development of ADCs.

General and Administrative

The following table summarizes our general and administrative expenses incurred during the respective periods:

	Six Months Ended June 30,	
	2022	2021
	(in thousands)	
Personnel related (including stock-based compensation)	$ 9,053	$ 8,762
Consulting, legal and other services	2,795	1,897
Facility related	1,272	2,130
Other	3,563	3,063
Total general and administrative expenses	$ 16,683	$ 15,852

General and administrative expenses increased by $0.8 million, or 5%, during the six months ended June 30, 2022 compared to the same period in 2021. The increase consists of a $0.9 million increase in consulting, legal and other services attributable to an increase in legal activities related to license agreements, and a $0.4 million increase in other expenses due mainly to an increase in amortization expenses attributable to the San Carlos Lease, as defined below, offset by a lower facility related cost of $0.9 million due to the completion of San Carlos premises construction.

Other Income

Other income is comprised of amounts earned from research and discovery services provided to partners under service agreements and assignment to third parties of non-core intellectual property. Other income increased by $0.1 million during the six months ended June 30, 2022 compared to the same period in 2021 partially offset by the completion of the services provided to a third party partner.

Interest Income

Interest income increased to $197,000 during the six months ended June 30, 2022 as compared to $147,000 during the six months ended June 30, 2021 due primarily to an increase in interest rates, partially offset by a decrease in the investment balance.

Interest Expense

Interest expense during the six months ended June 30, 2022 and 2021 pertained to the interest portion of payments made on capital leases under which we acquired certain property and equipment.

Liquidity and Capital Resources; Plan of Operations

Liquidity and Capital Resources

As of June 30, 2022, we had cash, cash equivalents and investments totaling $101.7 million. Our cash and cash equivalents primarily consist of bank deposits and money market funds. Our investments consist of U.S. government treasury and agency securities.

As of June 30, 2022, we had an accumulated deficit of $412.5 million and cash used in operating activities of $48.9 million for the six months then ended. Due to our significant research and development expenditures, we have generated significant operating losses since inception. To date, we have funded our operations primarily through the sale of convertible preferred stock and common stock.

In August 2020, we entered into a sales agreement, or Sales Agreement, with Cowen and Company, LLC, or Cowen, pursuant to which we may, upon the terms and subject to the conditions set forth therein, issue and sell through Cowen, acting as our sales agent and/or principal, shares of our Class A common stock, having an aggregate offering price of up to $100.0 million. As of June 30, 2022, we issued and sold 1,493,361 shares of our Class A common stock under the Sales Agreement. The net proceeds from the sales were $7.9 million after deducting underwriting fees of $0.3 million and issuance costs of $0.3 million.

Our management evaluates whether there are relevant conditions and events that in the aggregate raise substantial doubt about our ability to continue as a going concern and to meet its obligations as they become due within one year from the date that the financial statements are issued. We believe our existing cash, cash equivalents and investments will be sufficient to fund our operating and capital needs for at least the next 12 months. We believe we will meet longer-term expected future cash requirements and obligations through a combination of available cash, cash equivalents and investments, our Sales Agreement, and access to other private and public financing sources. The adequacy of our available funds and our ability to raise any necessary additional capital to meet longer-term operating and capital requirements will depend on many factors, including successfully developing product candidates, obtaining regulatory approvals to market and commercialize product candidates, manufacturing any approved products on commercially reasonable terms, entering into potential future partnerships, establishing a sales and marketing organization or suitable third-party alternatives for any approved product and raising sufficient funds to finance business activities.

We are subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. Identification and development of product candidates will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if our drug development efforts are successful, it is uncertain when, if ever, we will realize significant revenue from product sales.

Material Cash Requirements

We expect our net losses to increase substantially as we continue clinical development of our lead product candidate, ATRC-101. We have used substantial funds to develop our discovery platform and ATRC-101 and we will continue to require significant funds to continue to develop our discovery platform and conduct further research and development, including preclinical studies and clinical trials of ATRC-101, ATRC-301 and additional potential future product candidates, to seek regulatory approvals for ATRC-101, ATRC-301 and potential future product candidates and to manufacture and market products, if any, that are approved for commercial sale. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing and distribution arrangements. We cannot assure you that we will be successful in acquiring additional funding at levels sufficient to fund our operations or on terms favorable to us. If we

are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our preclinical studies, clinical trials, research and development programs or commercialization efforts.

In July 2019, we entered into a lease agreement, or the San Carlos Lease, for the lease of approximately 99,557 rentable square feet of office space located in San Carlos, California. The term of the San Carlos Lease commenced in August 2020, and the premises were delivered to us for the construction of certain tenant improvements. The term will end in April 2033. Base rent for the San Carlos Lease is $557,519 per month, with annual increases of 3%. We are obligated to maintain a security deposit of $1.1 million in the form of a letter of credit. The operating lease obligations discussed in Note 8, Leases, in our Notes to Condensed Financial Statements (Unaudited) included in Part I, Item 1 of this Quarterly Report on Form 10-Q. Leases represent operating lease obligations related to the San Carlos Lease.

In addition, we enter into contracts in the normal course of business with contract research organizations for preclinical and clinical studies as well as with contract development and manufacturing organizations for the manufacture of materials for those studies. These agreements generally provide for termination at the request of either party with less than one-year notice and are, therefore, cancelable contracts and not reflected in the table above.

Cash Flows

The following table summarizes our cash flows for the periods indicated:

	Six Months Ended June 30,	
	2022	2021
	(in thousands)	
Cash used in operating activities	$(48,928)	$(28,761)
Cash provided by (used in) investing activities	(23,130)	60,649
Cash provided by financing activities	3,758	732
Net increase (decrease) in cash and cash equivalents and restricted cash	$(68,300)	$ 32,620

Cash Flows from Operating Activities

For the six months ended June 30, 2022, cash used in operating activities was $48.9 million, which consisted of a net loss of $52.8 million and a net change of $9.6 million in our net operating assets and liabilities, partially offset by $13.4 million in non-cash charges. The non-cash charges consisted of depreciation and amortization of $2.7 million and stock-based compensation of $9.8 million. The change in operating assets and liabilities was primarily due to a $3.7 million decrease in accrued expenses attributable to payment of accrued bonus expenses and settlement of cease use liabilities, a $3.0 million increase in prepaid expenses and other current assets attributable to employee retention credit receivables, a $1.6 million decrease in operating lease liabilities due to amortization and a $1.3 million decrease in account payables attributable to the payments made to contract manufacturers and preclinical service vendors.

For the six months ended June 30, 2021, cash used in operating activities was $28.8 million, which consisted of a net loss of $52.5 million, partially offset by $11.0 million in non-cash charges and a net change of $12.7 million in our net operating assets and liabilities. The non-cash charges consisted of depreciation and amortization of $1.8 million and stock-based compensation of $8.3 million. The change in operating assets and liabilities was primarily due to a $16.3 million increase in deferred rent because of increased lease incentive obligations. This increase was partially offset by a $1.5 million increase in prepaid expenses and other current assets as a result of the increase in tenant improvement receivable from the Company's leasehold improvement construction for its San Carlos location and other prepaid vendor expenses, and a $1.8 million decrease in accrued expenses attributable to payment of accrued bonus expenses.

Cash Flows from Investing Activities

For the six months ended June 30, 2022, cash used in investing activities of $23.1 million was primarily related to $22.6 million in net purchase of investments.

For the six months ended June 30, 2021, cash provided by investing activities of $60.6 million was primarily related to $89.6 million in net proceeds from maturities of investments, partially offset by $29.0 million in purchases of property and equipment, primarily related to leasehold improvements for the San Carlos Lease.

Cash Flows from Financing Activities

For the six months ended June 30, 2022, cash provided by financing activities was $3.8 million, which primarily related to $3.5 million proceeds from the common stock sales related to the ATM program, net of underwriting discounts and commissions, $0.2 million and $0.1 million of proceeds from our 2019 Employee Stock Purchase Plan, or ESPP, and employee stock option exercises, respectively.

For the six months ended June 30, 2021, cash provided by financing activities was $0.7 million, which primarily related to $0.5 million and $0.3 million of proceeds from our 2019 ESPP and employee stock option exercises, respectively.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our condensed financial statements, which have been prepared in accordance with generally accepted accounting principles, or GAAP. The preparation of these condensed financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the condensed financial statements, as well as the reported revenue generated, and reported expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

There have been no material changes in our critical accounting policies from those disclosed in our Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" of the 2021 Form 10-K.

Emerging Growth Company Status

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies.

We elected to use this extended transition period for complying with new or revised accounting standards, including but not limited to the new lease accounting standard, that have different effective dates for public and private companies until the earlier of the date that we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates. We early adopted Accounting Standards Update 2014-09, Revenue from Contracts with Customers (Accounting Standards Codification Topic 606), and Accounting Standards Update 2018-07, Improvements to Nonemployee Share-Based Payment Accounting (Accounting Standards Codification Topic 718), as the JOBS Act does not preclude an emerging growth company from early adopting a new or revised accounting standard earlier than the time that such standard applies to private companies. We expect to use the extended transition period for any other new or revised accounting standards during the period in which we remain an emerging growth company.

We will remain an emerging growth company until the earliest of (i) December 31, 2024, (ii) the last day of our first fiscal year in which we have total annual gross revenues of at least $1.07 billion, (iii) the date on which we are deemed to be a "large accelerated filer" under the rules of the Securities and Exchange Commission, which means the market value of our voting and non-voting common equity that is held by non-affiliates is equal to or exceeds $700.0 million as of the prior June 30th and (iv) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

Recent Accounting Pronouncements

See Note 2, *Summary of Significant Accounting Policies*, in our Notes to Condensed Financial Statements (Unaudited) included in Part I, Item 1 of this Quarterly Report on Form 10-Q for a discussion of recent accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We have operations both within the United States and internationally, and we are exposed to market risk in the ordinary course of business.

Interest Rate Risk

The primary objectives of our investment activities are to ensure liquidity and to preserve capital. We are exposed to market risks in the ordinary course of our business. These risks include interest rate sensitivities. We held cash, cash equivalents and investments of $101.7 million and $148.1 million as of June 30, 2022 and December 31, 2021, respectively. We generally hold our cash in interest-bearing money market accounts. Historical fluctuations in interest rates have not been significant for us. Due to the short-term maturities of our cash equivalents and the low risk profile of our investments, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our cash equivalents or investments.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e)) under the Exchange Act that are designed to provide reasonable assurance that information required to be disclosed in our reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. As required by Rule 13a-15(b) under the Exchange Act, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of June 30, 2022, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes to our internal control over financial reporting that occurred during the quarter ended June 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations Over Internal Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, believes that our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at the reasonable assurance level. However, any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. Accordingly, our management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and fraud.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may become involved in litigation relating to claims arising from the ordinary course of business. Our management believes that there are currently no claims or actions pending against us, the ultimate disposition of which would have a material adverse effect on our results of operations, financial condition or cash flows.

Item 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties including those described below. You should consider and read carefully all of the risks and uncertainties described below, in addition to other information contained in this Quarterly Report on Form 10-Q, including our condensed financial statements and related notes, our "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as our other public filings. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that adversely affect our business. If any of the following risks or additional risks and uncertainties not presently known to us, that we currently believe to be immaterial, or others not specified below materialize, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that case, the trading price of our Class A common stock could decline, and you may lose all or part of your original investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations and the market price of our common stock. This Quarterly Report on Form 10-Q also contains forward-looking statements and estimates that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of specific factors, including the risks and uncertainties described below. The risks relating to our business set forth in our 2021 Form 10-K, are set forth below and are unchanged substantively as of June 30, 2022, except for those risks designated by an asterisk (*).

Risk Factor Summary

The success of our business will depend on a number of factors, many of which are beyond our control and involve risks, including but not limited to the following:*

Risks Related to Our Business

- We are a clinical-stage biopharmaceutical company with a history of losses. We expect to continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability, which could result in a decline in the market value of our Class A common stock.
- ATRC-101 is in clinical trials and ATRC-301 is in preclinical development. Either or both may fail in development or suffer delays that materially and adversely affect their commercial viability.
- Either ATRC-101 or ATRC-301, or both, may not demonstrate the combination of safety and efficacy necessary to become approvable or commercially viable.
- The COVID-19 pandemic continues to impact our business, and could have a material adverse impact on our business and our operations, including at our laboratories and office locations and at our clinical trial sites, as well as the business and operations of our manufacturers, CROs or other third parties with whom we conduct business.
- Failure to successfully validate, develop and obtain regulatory approval for companion diagnostics for our product candidates could harm our drug development strategy and operational results.
- We may not be successful in our efforts to use and expand our discovery platform to build a pipeline of product candidates and develop and commercialize them.
- Our approach to developing and identifying antibodies using our discovery platform is novel and unproven and may not result in marketable products.
- The market may not be receptive to our current or potential future product candidates, and we may not generate any revenue from the sale or licensing of our product candidates.
- If there are undesirable side effects caused by ATRC-101, ATRC-301 or any potential future product candidate in clinical trials or after receiving marketing approval, our ability to market and derive revenue from the product candidate could be compromised.
- We will need substantial additional funds to advance development of product candidates and our discovery platform, and we cannot guarantee that we will have sufficient funds available in the future to develop and commercialize our current or potential future product candidates.
- We may expend our limited resources to pursue a particular product candidate and fail to capitalize on product candidates that may be more profitable or for which there is a greater likelihood of success.
- We have obtained rights to use human samples in furtherance of our research and development of our current and potential future product candidates. However, if we fail to obtain appropriate consent or exceed the scope of the permission to use these samples, we may become liable for monetary damages for, obligated to pay continuing royalties for or required to cease usage of the samples.
- We have entered into, and may in the future enter into, strategic transactions for the research, development and commercialization of certain of our current and potential future product candidates. If any of these transactions are not successful, then we may not be able to capitalize on the market potential of such product candidates. Further, we may not be able to enter into future transactions on acceptable terms, if at all, which could adversely affect our ability to develop and commercialize current and potential future product candidates, impact our cash position, increase our expense, and present significant distractions to our management.
- If third parties on which we have and will continue to rely to conduct certain preclinical studies, or any future clinical trials, do not perform as contractually required, fail to satisfy regulatory or legal requirements or miss expected deadlines, our development program could be delayed or fail, which would have material and adverse impacts on our business and financial condition.
- Because we may rely on third parties for manufacturing and supply of our product candidates, some of which are or may be sole source vendors, for preclinical and clinical development materials and commercial supplies, our supply may become limited or interrupted or may not be of satisfactory quantity or quality.

Risks Related to Our Intellectual Property

- If we are unable to obtain or protect intellectual property rights related to our technology and current or future product candidates, or if our intellectual property rights are inadequate, we may not be able to compete effectively.
- If we fail to comply with our obligations under any license, collaboration or other intellectual property-related agreements, we may be required to pay damages and could lose intellectual property rights that may be necessary for developing, commercializing and protecting our current or future technologies or product candidates or we could lose certain rights to grant sublicenses.
- Patent terms may not be able to protect our competitive position for an adequate period of time with respect to our current or future technologies or product candidates.
- Other companies or organizations may challenge our or our licensors' patent rights or may assert patent rights that prevent us from developing and commercializing our current or future products.
- Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse impact on the success of our business.

Risks Related to Government Regulation

- Clinical development includes a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results
- We may be unable to obtain U.S. or foreign regulatory approval and, as a result, be unable to commercialize ATRC-101, ATRC-301 or potential future product candidates.
- Even if we receive regulatory approval for any of our current or potential future product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our current or potential future product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.
- We may attempt to secure approval from the FDA through the use of accelerated registration pathways. If unable to obtain approval under an accelerated pathway, we may be required to conduct additional preclinical studies or clinical trials which could increase the expense of obtaining, reduce the likelihood of obtaining or delay the timing of obtaining, necessary marketing approvals. Even if we receive approval for accelerated registration pathways from the FDA, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA may seek to withdraw accelerated approval.
- We are subject to U.S. and foreign anti-corruption and anti-money laundering laws with respect to our operations and non-compliance with such laws can subject us to criminal or civil liability and harm our business.

Risks Related to Our Class A Common Stock

- Our stock price may be volatile and purchasers of our Class A common stock could incur substantial losses.
- Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.
- Future sales and issuances of our Class A common stock or Class B common stock or rights to purchase Class A common stock or Class B common stock, including pursuant to our 2019 Equity Incentive Plan, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.
- Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

We are a clinical-stage biopharmaceutical company with a history of losses. We expect to continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability, which could result in a decline in the market value of our Class A common stock.

We are a clinical-stage biopharmaceutical company with a history of losses. Since our inception, we have devoted substantially all of our resources to research and development, raising capital, building our management team and building our intellectual property portfolio, and we have incurred significant operating losses. As of June 30, 2022, and December 31, 2021, we had accumulated deficits of $412.5 million and $359.8 million, respectively. For the three months ended June 30, 2022 and 2021, our net losses were $27.9 million and $26.7 million, respectively. For the six months ended June 30, 2022 and 2021, our net losses were $52.8 million and $52.5 million, respectively. Substantially all of our losses have resulted from expenses incurred in connection with our research and development programs and from general and administrative costs associated with our operations. To date, we have not generated any revenue from product sales, and we have not sought or obtained regulatory approval for any product candidate. Furthermore, we do not expect to generate any revenue from product sales for the foreseeable future, and we expect to continue to incur significant operating losses for the foreseeable future due to the cost of research and development, preclinical studies and clinical trials and the regulatory approval process for our current and potential future product candidates.

We expect our net losses to increase substantially as we continue clinical development of our lead product candidate, ATRC-101, and the preclinical development of ATRC-301. However, the amount of our future losses is uncertain. Our ability to achieve or sustain profitability, if ever, will depend on, among other things, successfully developing product candidates, obtaining regulatory approvals to market and commercialize product candidates, manufacturing any approved products on commercially reasonable terms, entering into potential future partnerships, establishing a sales and marketing organization or suitable third-party alternatives for any approved product and raising sufficient funds to finance business activities. If we, or our potential future partners, are unable to commercialize one or more of our product candidates, or if sales revenue from any product candidate that receives approval is insufficient, we will not achieve or sustain profitability, which could have a material and adverse effect on our business, financial condition, results of operations and prospects. Any predictions you make about our future success or viability may not be as accurate as they could be if we had a history of successfully developing and commercializing pharmaceutical products.

ATRC-101 is in clinical trials and ATRC-301 is in preclinical development. Either or both may fail in development or suffer delays that materially and adversely affect their commercial viability.

In February 2020, we initiated a Phase 1b clinical trial for ATRC-101 in patients with solid tumors. In addition, in April 2022, we announced ATRC-301 as our next clinical candidate, and that we have initiated IND-enabling studies for ATRC-301. We have no products on the market or that have gained regulatory approval. Other than ATRC-101 and ATRC-301, we currently have no product candidates, and only ATRC-101 has ever been tested in humans. Our ability to achieve and sustain profitability depends on obtaining regulatory approvals for and successfully commercializing product candidates, either alone or with partners.

Before obtaining regulatory approval for the commercial distribution of product candidates, we or a partner must conduct extensive preclinical studies, followed by clinical trials to demonstrate the safety and efficacy of our product candidates in humans. We cannot be certain of the timely completion or outcome of our preclinical studies, including our IND-enabling studies for ATRC-301, and we cannot predict if the FDA or other regulatory authorities will accept our proposed clinical programs or if the outcome of our preclinical studies will ultimately support the further development of our preclinical programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs, including for ATRC-301, on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin.

In response to COVID-19, the FDA and other regulatory authorities have been periodically prevented from conducting their regular inspections, reviews, or other regulatory activities, and if this continues to occur it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory

submissions, which could have an adverse effect on the timing and progress of our current or future clinical trials and our business.

ATRC-101 is in early clinical development and ATRC-301 is in preclinical development, and we are subject to the risks of failure inherent in the development of product candidates based on novel approaches, targets and mechanisms of action. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays and difficulties frequently encountered by clinical stage biopharmaceutical companies such as ours.

We may not have the financial resources to continue development of, or to enter into new collaborations for, ATRC-101, ATRC-301, or any potential future product candidates. This may be exacerbated if we experience any issues that delay or prevent regulatory approval of, or our ability to commercialize, ATRC-101, ATRC-301, or any potential future product candidate, such as:

- negative or inconclusive results from our preclinical studies or clinical trials, or the preclinical studies or clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical studies or clinical trials or abandon a program;
- product-related side effects experienced by participants in our clinical trials or by individuals using drugs or therapeutic antibodies similar to ours;
- delays in submitting IND applications or comparable foreign applications, or delays or failure in obtaining the necessary approvals from regulators to commence a clinical trial, or a suspension or termination of a clinical trial once commenced;
- conditions imposed by the FDA, or other regulatory authorities regarding the scope or design of our clinical trials;
- delays in enrolling research subjects in clinical trials;
- high drop-out rates of research subjects;
- inadequate supply or quality of product candidate components or materials or other supplies necessary for the conduct of our clinical trials;
- greater-than-anticipated clinical trial costs;
- poor effectiveness of our product candidates during clinical trials;
- unfavorable FDA or other regulatory agency inspection and review of a clinical trial or manufacture site;
- failure of our third-party contractors or investigators to comply with regulatory requirements or otherwise meet their contractual obligations in a timely manner, or at all;
- delays and changes in regulatory requirements, policies and guidelines; or
- the FDA or other regulatory agencies interpreting our data differently than we do.

As a result of the COVID-19 pandemic, we have experienced, and may experience in the future, disruptions or delays in our clinical trial for ATRC-101. These disruptions or delays may affect, among other things, enrolling patients, initiating sites, recruiting clinical site investigators and site personnel, achieving patient compliance with clinical trial protocols if COVID-19 containment measures or other limitations or restrictions impede patient movement or interrupt healthcare services, monitoring clinical trial sites due to travel restrictions related to COVID-19, and collecting sufficient clinical data. For example, we have experienced delays in initiating sites, achieving patient compliance with study-related procedures, and enrolling and treating patients. We have worked, and continue to work, closely with our current and potential clinical trial sites to mitigate any disruptions or delays. However, COVID-19 may continue to have a negative impact on our clinical trial activities for ATRC-101, and may have a negative impact on our preclinical activities for ATRC-301, but we cannot predict the full extent of such impacts at this time.

Further, we and our potential future partners may never receive approval to market and commercialize any product candidate. Even if we or a potential future partner obtains regulatory approval, the approval may be for targets, disease indications or patient populations that are not as broad as we intended or desired or may require labeling that includes significant use or distribution restrictions or safety warnings. We or a potential future partner may be subject to post-marketing testing requirements to maintain regulatory approval.

Either ATRC-101 or ATRC-301, or both, may not demonstrate the combination of safety and efficacy necessary to become approvable or commercially viable.

Either ATRC-101 or ATRC-301, or both, may not possess certain properties that we currently believe are helpful for therapeutic effectiveness and safety. For example, although ATRC-101 and ATRC-301 have exhibited encouraging results in animal studies, including anti-tumor activity, and an acceptable safety profile in the case of ATRC-101, either or both may not demonstrate the same properties in humans, or in non-human primates in the case of ATRC-301, and may interact with the biological systems of humans, or of non-human primates in the case of ATRC-301, in unforeseen, ineffective or harmful ways. As a result, we may never succeed in developing a marketable product based on ATRC-101 or ATRC-301. If ATRC-101, ATRC-301, or any of our potential future product candidates prove to be ineffective, unsafe or commercially unviable, our entire pipeline could have little, if any, value, which could require us to change our focus and approach to antibody discovery and development, which would have a material and adverse effect on our business, financial condition, results of operations and prospects.

The COVID-19 pandemic continues to impact our business, and could have a material adverse impact on our business and our operations, including at our laboratories and office locations and at our clinical trial sites, as well as the business and operations of our manufacturers, CROs or other third parties with whom we conduct business.

The COVID-19 pandemic continues to impact our business and could have a material adverse impact on our business and operations, and the business and operations of our manufacturers, CROs and other third parties with whom we conduct our business. In response to COVID-19, we transitioned to a fully remote working environment in March 2020 and re-opened for certain personnel in June 2020 and for additional personnel in July 2021. In April 2022, the majority of our personnel resumed working on site. We do not know if, or when, we may have to close our laboratories and office locations, or limit on site personnel, again. COVID-19 could have a material adverse impact on our business and our operations, including:

- disruptions or delays in our preclinical studies, including our IND-enabling studies for ATRC-301, or our clinical trial for ATRC-101, including enrolling patients, initiating sites, recruiting clinical site investigators and site personnel, achieving patient compliance with clinical trial protocols if containment measures or other limitations or restrictions impede patient movement or interrupt healthcare services, monitoring clinical trial sites due to travel restrictions related to COVID-19, and collecting sufficient clinical data;
- disruptions or delays in our manufacturing activities, including our supply of preclinical, clinical, and commercial materials from existing third-party manufacturers and our ability to engage new third-party manufacturers;
- disruptions or delays in our existing and potential future collaboration activities, both internally and externally at collaborators;
- disruptions or delays in our efforts to use and expand our discovery platform, both internally and externally with third parties, including decreased productivity of our onsite lab-based personnel due to restrictions related to COVID-19 at our laboratory and office locations and delays in receiving necessary supplies and other materials;
- delays in activities of the FDA or other regulatory authorities related to our clinical trial for ATRC-101 or any future clinical trials;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of clinical trials;
- changes in laws or regulations as a result of COVID-19 that may require us to change the ways in which our clinical trial is conducted and incur unexpected costs, or require us to discontinue the clinical trial;
- interruption in global commercial transportation and shipping that may affect the transport of clinical trial materials;
- delays in necessary interactions with local regulators, ethics committees and other agencies and contractors due to limitations in employee resources or forced furlough of government personnel;
- delays and decreased productivity as a result our onsite personnel complying with restrictions related to COVID-19 at our laboratory and office locations, including our COVID-19 onsite safety protocols;

- the potential closure of our laboratories and offices again due to future COVID-19 outbreaks where our laboratories and offices are located;
- disruptions, delays and decreased productivity in the event that our personnel contract COVID-19, including as a result of the full reopening of our laboratories and office locations and the return of personnel to these locations, which could necessitate quarantining and contact tracing efforts;
- disruptions or delays in using and expanding our discovery platform; and
- delays or difficulties in our ability to access capital.

In our clinical trial for ATRC-101, we experienced delays related to COVID-19 in 2020 and 2021, and we continue to experience such delays in 2022, primarily in enrolling and treating patients due to COVID-19 infections and resulting site staff shortages. COVID-19 may continue to have a negative impact on our clinical trial activities for ATRC-101, and may have a negative impact on our preclinical activities for ATRC-301, but we cannot predict the full extent of such impacts at this time.

The spread of COVID-19, which has caused a broad impact globally, may materially impact us economically. While the extent of the global economic impact brought by, and the duration of, COVID-19 may be difficult to assess or predict, the pandemic has significantly increased economic uncertainty and has resulted in, and may continue to result in, significant disruption of, and volatility in, global financial markets, which could reduce our ability to access capital and negatively affect our liquidity or could result in a recession or market correction, which could materially adversely affect our business, operations, and the value of our common stock.

COVID-19 continues to evolve rapidly, and multiple variants of the virus that causes COVID-19 are circulating globally. We cannot predict the potential future impacts of COVID-19, including its variants, on us and third parties with whom we conduct business, including on our clinical studies and our clinical trial for ATRC-101 and related timelines, as well as our preclinical activities, including our IND-enabling studies for ATRC-301. These impacts will depend on future developments that are highly uncertain and cannot be predicted with confidence, such as the duration and spread of COVID-19, including the recurrence of the pandemic or the emergence of novel variants, containment measures and other limitations and restrictions, business disruptions and the effectiveness of actions taken in the United States and other countries to contain, vaccinate against, and treat COVID-19, including its variants. Given these uncertainties, we do not yet know the full extent of the potential impacts on our business, our clinical and regulatory activities, healthcare systems, or the global economy. As a result, COVID-19 could materially adversely affect our business, financial condition, results of operations, growth prospects, and our ability to execute on our business strategies in the future and potentially disrupt the business of third parties with whom we do business, including our existing and potential future collaborators, any of which could also have the effect of heightening many of the other risks and uncertainties described in this ‘‘Risk Factors’’ section.

Failure to successfully validate, develop and obtain regulatory approval for companion diagnostics for our product candidates could harm our drug development strategy and operational results.

As one of the elements of our clinical development approach, we may seek to develop lab-based tests to screen and identify subsets of patients who may be more likely to benefit from our product candidates, more commonly referred to as companion diagnostics. To achieve this, we may seek to develop and commercialize such companion diagnostics ourselves or through third-party collaborators. For example, for ATRC-101, we have developed a diagnostic to select participants based on ATRC-101 target expression. Companion diagnostics are generally developed in conjunction with clinical programs for the associated product and can be helpful in enrolling patients in clinical studies who may be more likely to respond to the specific therapeutic being developed. The approval of a companion diagnostic as part of the product label could limit the use of the product candidate to those patients whose companion diagnostic test is positive for ATRC-101 target.

Companion diagnostics are subject to regulation by the FDA and other regulatory authorities as medical devices and typically require separate clearance or approval prior to their commercialization or certain uses in clinical trials. To date, the FDA has required premarket approval of companion diagnostics for oncology therapies. We and our third-party collaborators may encounter difficulties in developing and obtaining approval for these companion diagnostics. Any delay or failure by us or third-party collaborators to develop or obtain regulatory approval of a companion diagnostic could delay or prevent approval of our corresponding product candidates. The time and cost associated with

developing a companion diagnostic may not prove to have been necessary in order to successfully obtain regulatory approvals or market the product.

We may not be successful in our efforts to use and expand our discovery platform to build a pipeline of product candidates and develop and commercialize them.

A key element of our strategy is to use and expand our discovery platform to build a pipeline of product candidates. Our discovery platform is evolving, and we are only beginning to build a pipeline of product candidates. To date, our research and development efforts have resulted in our discovery of ATRC-101, ATRC-301, and earlier stage preclinical assets. ATRC-101, ATRC-301, and any of our other assets may not advance through research and development and ultimately be safe or effective as a cancer treatment, and we may not be able to develop any other product candidates. In addition, as a result of COVID-19, we have experienced disruptions and delays in our efforts, both internally and externally with third parties, to use and expand our discovery platform.

Even if we are successful in building our pipeline of product candidates, we may not be able to progress them through preclinical and clinical development and commercialization for the treatment of various diseases. We may not have the substantial technical, financial, and personnel resources to progress any potential product candidates that we identify, or we may not allocate these resources to the most commercially viable product candidate. In addition, the potential product candidates that we identify may not be suitable for preclinical or clinical development or generate acceptable data, including as a result of being shown to have unacceptable toxicity or other characteristics that indicate that they are unlikely to be products that will receive marketing approval from the FDA or other regulatory authorities or achieve market acceptance. If we do not successfully build a pipeline of product candidates and develop and commercialize them, we will not be able to generate product revenue in the future.

Our approach to developing and identifying antibodies using our discovery platform is novel and unproven and may not result in marketable products.

We are developing a pipeline of product candidates using our discovery platform. We believe that we may be able to overcome certain key limitations of the current oncology drug discovery paradigm by focusing on an active human anti-tumor immune response that develops over time. However, our scientific research that forms the basis of our efforts to discover product candidates based on our discovery platform is ongoing. Further, the scientific evidence to support the feasibility of developing therapeutic antibodies based on our platform has not been established. We may not be correct in our beliefs about the differentiated nature of our platform to competing technologies, and our platform may not prove to be superior. If our discovery platform is not able to develop approved antibody constructs that are effective at the necessary speed or scale, it could have a material and adverse effect on our business, financial condition, results of operations and prospects.

The market may not be receptive to our current or potential future product candidates, and we may not generate any revenue from the sale or licensing of our product candidates.

Even if regulatory approval is obtained for a product candidate, including ATRC-101 or ATRC-301, we may not generate or sustain revenue from sales of the product. Market acceptance of our current and potential future product candidates will depend on, among other factors:

- the timing of our receipt of any marketing and commercialization approvals;
- the terms of any approvals and the countries in which approvals are obtained;
- the safety and efficacy of our product candidates;
- the prevalence and severity of any adverse side effects associated with our product candidates;
- limitations or warnings contained in any labeling approved by the FDA or other regulatory authority;
- relative convenience and ease of administration of our product candidates;
- the success of our physician education programs;
- the availability of coverage and adequate government and third-party payor reimbursement;
- the pricing of our products, particularly as compared to alternative treatments; and

- availability of alternative effective treatments for the disease indications our product candidates are intended to treat and the relative risks, benefits and costs of those treatments.

If any product candidate we commercialize fails to achieve market acceptance, it could have a material and adverse effect on our business, financial condition, results of operations and prospects.

If there are undesirable side effects caused by ATRC-101, ATRC-301 or any potential future product candidate in clinical trials or after receiving marketing approval, our ability to market and derive revenue from the product candidate could be compromised.

Undesirable side effects caused by ATRC-101, ATRC-301 or any potential future product candidate could cause regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities. It is likely that there will be side effects associated with the use of ATRC-101, ATRC-301 or any potential future product candidate. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of these side effects. In such an event, our trials could be suspended or terminated and the FDA or other regulatory authorities could order us to cease further development of or deny approval of a product candidate for any or all targeted indications. Such side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may materially and adversely affect our business and financial condition and impair our ability to generate revenues.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of a product candidate may only be uncovered when a significantly larger number of patients are exposed to the product candidate or when patients are exposed for a longer period of time.

In the event that any of our current or potential future product candidates receive regulatory approval and we or others identify undesirable side effects caused by one of these products, any of the following adverse events could occur, which could result in the loss of significant revenue to us and materially and adversely affect our results of operations and business:

- regulatory authorities may withdraw their approval of the product or seize the product;
- we may be required to recall the product or change the way the product is administered to patients;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof;
- we may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a “black box” warning or a contraindication;
- we may be required to create a Medication Guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

We will need substantial additional funds to advance development of product candidates and our discovery platform, and we cannot guarantee that we will have sufficient funds available in the future to develop and commercialize our current or potential future product candidates.

The development of biopharmaceutical product candidates is capital-intensive. If ATRC-101, ATRC-301 or potential future product candidates advance through preclinical studies and clinical trials, we will need substantial additional funds to expand our development, regulatory, manufacturing, marketing and sales capabilities. We have used substantial funds to develop our discovery platform, and we will require significant funds to continue to develop our discovery platform and conduct further research and development, including preclinical studies and clinical trials of ATRC-101, ATRC-301 and additional potential future product candidates, to seek regulatory approvals for ATRC-101,

ATRC-301 and potential future product candidates and to manufacture and market products, if any, that are approved for commercial sale. In addition, we expect to incur additional costs associated with operating as a public company.

As of June 30, 2022, we had $101.7 million in cash, cash equivalents, and investments. Based on our current operating plan, we believe that our cash, cash equivalents, and investments as of June 30, 2022 will be sufficient to fund our operations for at least the next 12 months. Our future capital requirements and the period for which we expect our existing resources to support our operations may vary significantly from what we expect. Our monthly spending levels vary based on new and ongoing research and development and other corporate activities. Because the length of time and activities associated with successful research and development of product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and commercialization activities. The timing and amount of our operating expenditures will depend largely on:

- the timing and progress of preclinical and clinical development activities;
- the timing and progress of our development of our discovery platform;
- the price and pricing structure that we are able to obtain from our third-party contract manufacturers to manufacture our preclinical study and clinical trial materials and supplies;
- the number and scope of preclinical and clinical programs we decide to pursue;
- our ability to maintain our current licenses and research and development programs and to establish new collaborations;
- the progress of the development efforts of parties with whom we may in the future enter into collaboration and research and development agreements;
- the costs involved in obtaining, maintaining, enforcing and defending patents and other intellectual property rights;
- the cost and timing of regulatory approvals; and
- our efforts to enhance operational systems, secure sufficient laboratory space and hire additional personnel, including personnel to support development of our product candidates and satisfy our obligations as a public company.

To date, we have primarily financed our operations through the sale of equity securities and payments and other income received under discovery services agreements not related to our primary business. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing and distribution arrangements. We cannot assure you that we will be successful in acquiring additional funding at levels sufficient to fund our operations or on terms favorable to us. For example, as a result of the COVID-19 pandemic or political, social, and economic instability abroad, including as a result of armed conflict, war or the threat of war, in particular, the current conflict in Ukraine, terrorist activity and other security concerns in general, there could be a significant disruption of global financial markets, impairing our ability to raise capital when needed on acceptable terms, if at all. We are actively monitoring the situation in Ukraine and Russia and assessing its impact on our business, including our business partners. To date, we have not experienced any material interruptions in our operations. The extent and duration of the conflict, sanctions, and resulting market disruptions could be significant and could potentially have substantial impact on the global economy and our business for an unknown period of time. Any such disruption could also have the effect of heightening many of the other risks and uncertainties described in this “Risk Factors” section.

If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our preclinical studies, clinical trials, research and development programs or commercialization efforts. Because of the numerous risks and uncertainties associated with the development and commercialization of our current and potential future product candidates and the extent to which we may enter into collaborations with third parties to participate in their development and commercialization, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated preclinical studies and clinical trials. To the extent that we raise additional capital through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our current and potential future product candidates, future revenue streams or research programs or to grant licenses on terms that may not be favorable to us. If we do raise additional capital through public or private equity or convertible debt offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders’ rights.

If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

We do not expect to realize revenue from product sales or royalties from licensed products in the foreseeable future, if at all, and unless and until our current and potential future product candidates are clinically tested, approved for commercialization and successfully marketed.

We may expend our limited resources to pursue a particular product candidate and fail to capitalize on product candidates that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we intend to focus our efforts on specific research and development programs, including clinical development of ATRC-101 and preclinical development of ATRC-301. As a result, we may forgo or delay pursuit of other opportunities, including with potential future product candidates that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through partnership, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

We have obtained rights to use human samples in furtherance of our research and development of our current and potential future product candidates. However, if we fail to obtain appropriate consent or exceed the scope of the permission to use these samples, we may become liable for monetary damages for, obligated to pay continuing royalties for or required to cease usage of the samples.

We begin our discovery process by gathering samples from patients. While we attempt to ensure that we, our study site partners or other providers have obtained these samples with informed consent and all necessary permissions, there is a risk that one or more patients or their representatives may assert that we have either failed to obtain informed consent or exceeded the scope of permission to use the patient's sample. We cannot guarantee that we would succeed in establishing that we had informed consent or appropriate permission, if a patient or patient representative contested the matter. In such circumstances, we could be required to pay monetary damages, to pay a continuing royalty on any products created or invented by analyzing the patient's sample or even to cease using the sample and any and all materials derived from or created through analysis of the sample, any of which could result in a change to our business plan and materially harm our business, financial condition, results of operations and prospects.

We have entered into, and may in the future enter into, strategic transactions for the research, development and commercialization of certain of our current and potential future product candidates. If any of these transactions are not successful, then we may not be able to capitalize on the market potential of such product candidates. Further, we may not be able to enter into future transactions on acceptable terms, if at all, which could adversely affect our ability to develop and commercialize current and potential future product candidates, impact our cash position, increase our expense, and present significant distractions to our management.

From time to time, we have entered into, and may enter into in the future, strategic transactions, such as collaborations, acquisitions of companies, asset purchases, joint ventures and out- or in-licensing of product candidates or technologies. For example, in July 2020, we entered into a collaboration and license agreement with Xencor, Inc. Our ability to generate revenue from any of our strategic transactions will depend on our partners' abilities to successfully perform the functions assigned to them in these transactions. We cannot predict the success of any of our strategic transactions.

We also intend to evaluate and, if strategically attractive, seek to enter into additional collaborations in the future, including with biotechnology or biopharmaceutical companies or hospitals. The competition for partners is intense, and the negotiation process is time-consuming and complex. If we are not able to enter into strategic

transactions, we may not have access to required liquidity or expertise to further develop our potential future product candidates or our discovery platform.

Any existing or potential future collaboration or other strategic transaction may require us to incur non-recurring or other charges, increase our near- and long-term expenditures and pose significant integration or implementation challenges or disrupt our management or business. We may acquire additional technologies and assets, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business, but we may not be able to realize the benefit of such acquisitions or collaborations. In addition, any new collaboration that we enter into may be on terms that are not optimal for us.

Our existing and future strategic transactions would entail numerous operational and financial risks, including:

- exposure to unknown liabilities;
- disruption of our business and diversion of our management's time and attention in order to manage a collaboration or develop acquired products, product candidates or technologies;
- incurrence of substantial debt or dilutive issuances of equity securities to pay transaction consideration or costs;
- higher-than-expected collaboration, acquisition or integration costs, write-downs of assets or goodwill or impairment charges, increased amortization expenses;
- collaborators have significant discretion in determining the efforts and resources they apply to these collaborations, and may not pursue development of any product candidates we may develop or may elect not to continue development programs based on preclinical study results, changes in the collaborator's strategic focus or other factors that may be beyond our control;
- collaborators could independently develop, or develop with third parties, products that may compete directly or indirectly with our product candidates if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the development or commercialization of our product candidates;
- difficulty and cost in facilitating the collaboration or combining the operations and personnel of any acquired business;
- disputes may arise between a collaborator and us, including with respect to the ownership of any intellectual property developed pursuant to our collaborations, that cause the delay or termination of the research, development or commercialization of a product candidate, or that result in costly litigation or arbitration that diverts management's attention and resources;
- impairment of relationships with key suppliers, manufacturers or customers of any acquired business due to changes in management and ownership; and
- the inability to retain key employees of any acquired business.

Accordingly, although there can be no assurance that we will undertake or successfully complete any strategic transactions of the nature described above, any collaborations that we are currently engaged in or transactions we may complete in the future may be subject to the foregoing or other risks and our business could be materially harmed by such transactions. Conversely, any failure to enter any collaboration or other strategic transaction that would be beneficial to us could delay the development and potential commercialization of our product candidates and have a negative impact on the competitiveness of any product candidate that reaches market.

In addition, to the extent that any of our existing or future partners were to terminate a collaboration agreement, we may be forced to independently develop our current and future product candidates, including funding preclinical studies or clinical trials, assuming marketing and distribution costs and maintaining, enforcing and defending intellectual property rights, or, in certain instances, abandon product candidates altogether, any of which could result in a change to our business plan and materially harm our business, financial condition, results of operations and prospects.

If third parties on which we have and will continue to rely to conduct certain preclinical studies, or any future clinical trials, do not perform as contractually required, fail to satisfy regulatory or legal requirements or miss expected deadlines, our development program could be delayed or fail, which would have material and adverse impacts on our business and financial condition.

We have and will continue to rely on third-party clinical investigators, contract research organizations, or CROs, clinical data management organizations and consultants to conduct, supervise and monitor certain preclinical studies and any clinical trials. Because we intend to rely on these third parties and will not have the ability to conduct certain preclinical studies or clinical trials independently, we will have less control over the timing, quality and other aspects of such preclinical studies and clinical trials than we would have had we conducted them on our own. These investigators, CROs and consultants will not be our employees and we will have limited control over the amount of time and resources that they dedicate to our programs. These third parties may have contractual relationships with other entities, some of which may be our competitors, which may draw time and resources from our programs. The third parties with which we may contract might not be diligent, careful or timely in conducting our preclinical studies or clinical trials, resulting in the preclinical studies or clinical trials being delayed or unsuccessful. If we cannot contract with acceptable third parties on commercially reasonable terms, or at all, or if these third parties do not carry out their contractual duties, satisfy legal and regulatory requirements for the conduct of preclinical studies or clinical trials or meet expected deadlines, our clinical development programs could be delayed or fail, or could be otherwise adversely affected. In all events, we will be responsible for ensuring that each of our preclinical studies and clinical trials are conducted in accordance with the general investigational plan and protocols for the trial. The FDA may require preclinical studies to be conducted in accordance with good laboratory practices and clinical trials to be conducted in accordance with good clinical practices, including for designing, conducting, recording and reporting the results of preclinical studies and clinical trials to ensure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control will not relieve us of these responsibilities and requirements. Any adverse development or delay in our clinical trials could have a material and adverse impact on our commercial prospects and may impair our ability to generate revenue.

We are working closely with our third-party clinical investigators, clinical CROs, clinical data management organizations and clinical consultants, preclinical CROs and other vendors of preclinical materials and services to mitigate potential disruptions and delays in our clinical trial for ATRC-101 and our preclinical studies, including our IND-enabling studies for ATRC-301, due to COVID-19. However, COVID-19, including its variants, may lead to significant disruptions or material delays in our preclinical studies and our clinical trial, which would adversely impact our business, financial condition, results of operations and commercial prospects.

Clinical trials are expensive, time-consuming and difficult to design and implement.

Human clinical trials are expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. Because our current and potential future product candidates are based on new technologies and discovery approaches, we expect that they will require extensive research and development and have substantial manufacturing and processing costs. In addition, costs to treat patients and to treat potential side effects that may result from our product candidates may be significant. Accordingly, our clinical trial costs are likely to be high and could have a material and adverse effect on our business, financial condition, results of operations and prospects.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.*

We may not be able to initiate or continue clinical trials for our current or potential future product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or other regulatory authorities. In particular, we initiated a Phase 1b clinical trial for ATRC-101 in patients with a limited number of tumor types. We cannot predict how difficult it will be to enroll patients for trials in these indications. We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The enrollment of patients depends on many factors, including:

- the severity of the disease under investigation;

- the patient eligibility criteria defined in the clinical trial protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity and availability of clinical trial sites for prospective patients;
- the patient referral practices of physicians;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating;
- our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion.

In our clinical trial for ATRC-101, we experienced delays related to COVID-19 in 2020 and 2021, and we continue to experience such delays in 2022, primarily in enrolling and treating patients due to COVID-19 infections and resulting site staff shortages. In addition, we are experiencing delays in enrolling and treating patients due to broader staff shortages in healthcare facilities, including at our clinical trial sites. We are working closely with our current and potential clinical trial sites to mitigate any potential disruptions and delays. However, COVID-19, site staff shortages, and other factors may continue to impact our clinical trial, including significant disruptions or material delays in our ability to enroll patients, which could adversely impact the cost, timing, or outcome of our clinical trial for ATRC-101 and our ability to advance the development of ATRC-101.

In addition, our future clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites. Additionally, because some of our clinical trials will be in patients with advanced solid tumors, the patients are typically in the late stages of the disease and may experience disease progression or adverse events independent from our product candidates, making them unevaluable for purposes of the trial and requiring additional enrollment. Delays in patient enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our product candidates.

We may not be able to conduct, or contract others to conduct, animal testing in the future, which could harm our research and development activities.

Certain laws and regulations relating to drug development require us to test our product candidates on animals before initiating clinical trials involving humans. Animal testing activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas and by disrupting these activities through protests and other means. To the extent the activities of these groups are successful, our research and development activities may be interrupted or delayed.

Because we may rely on third parties for manufacturing and supply of our product candidates, some of which are or may be sole source vendors, for preclinical and clinical development materials and commercial supplies, our supply may become limited or interrupted or may not be of satisfactory quantity or quality.

We currently rely on third-party contract manufacturers for our preclinical and future clinical trial product materials and supplies. We do not produce any meaningful quantity of our product candidates for preclinical and clinical development, and we do not currently own manufacturing facilities for producing such supplies. Furthermore, some of our manufacturers may represent our sole source of supplies of preclinical and future clinical development materials, including our source for the manufacture of ATRC-101. We cannot assure you that our preclinical or future clinical development product supplies and commercial supplies will not be limited or interrupted or will be of satisfactory quality or continue to be available at acceptable prices. In particular, any replacement of our manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements. For our current and any

future sole source third-party manufacturing and supply partners, we may be unable to negotiate binding agreements with them or find replacement manufacturers to support our preclinical and future clinical activities at commercially reasonable terms in the event that their services to us becomes interrupted for any reason. We may not have arrangements in place for a redundant or second-source supply for our sole source vendors in the event they cease to provide their products or services to us or do not timely provide sufficient quantities to us. Establishing additional or replacement vendors, if required, may not be accomplished quickly. Any delays, whether due to COVID-19 or otherwise, resulting from manufacturing or supply interruptions associated with our reliance on third-party manufacturing and supply partners, including those that are sole source, could impede, delay, limit or prevent our drug development efforts, which could harm our business, result of operations, financial condition and prospects.

We are working closely with our third-party manufacturers to mitigate potential disruptions or delays to the supply of our preclinical, clinical, and commercial materials due to COVID-19. However, COVID-19 may lead to significant disruptions or material delays in our ability to receive these materials, and our ability to engage new third-party manufacturers, which could adversely impact our business, financial condition and results of operations.

The manufacturing process for a product candidate is subject to FDA and other regulatory authority review. Suppliers and manufacturers must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by regulatory authorities in order to comply with regulatory standards, such as current Good Manufacturing Practices, or cGMP. In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third party, which we may not be able to do on reasonable terms, or at all. In some cases, the technical skills or technology required to manufacture our current and future product candidates may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third party and a feasible alternative may not exist. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to have another third party manufacture our product candidates. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop product candidates in a timely manner or within budget.

We also expect to rely on third-party manufacturers if we receive regulatory approval for any product candidate. We have existing, and may enter into future, manufacturing arrangements with third parties. We will depend on these third parties to perform their obligations in a timely manner consistent with contractual and regulatory requirements, including those related to quality control and assurance. If we are unable to obtain or maintain third-party manufacturing for any product candidate, or to do so on commercially reasonable terms, we may not be able to develop and commercialize our product candidates successfully. Our or a third party's failure to execute on our manufacturing requirements and comply with cGMP could adversely affect our business in a number of ways, including:

- an inability to initiate or continue clinical trials of product candidates under development;
- delay in submitting regulatory applications, or receiving regulatory approvals, for product candidates;
- loss of the cooperation of a potential future partner;
- subjecting third-party manufacturing facilities or our potential future manufacturing facilities to additional inspections by regulatory authorities;
- requirements to cease distribution or to recall batches of product candidates; and
- in the event of approval to market and commercialize a product candidate, an inability to meet commercial demands for our products.

Our third-party manufacturers may be unable to successfully scale manufacturing of ATRC-101 or potential future product candidates, including ATRC-301, in sufficient quality and quantity, which would delay or prevent us from developing product candidates and commercializing approved products, if any.

In order to conduct clinical trials for ATRC-101 as well as ATRC-301 and any potential future product candidates, we will need to manufacture large quantities of these product candidates. We may continue to and currently expect to use third parties for our manufacturing needs. Our manufacturing partners may be unable to successfully increase the manufacturing capacity for any current or potential future product candidate in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities. If our manufacturing partners are unable to successfully scale the manufacture of any current or potential future product candidate in sufficient quality and quantity, the development, testing and clinical trials of that product candidate may be delayed or infeasible, and regulatory approval or commercial launch of any potential resulting product may be delayed or not obtained, which could significantly harm our business.

If the market opportunities for our current and potential future product candidates, including ATRC-101 and ATRC-301, are smaller than we believe they are, our future product revenues may be adversely affected and our business may suffer.

Our understanding of the number of people who suffer from certain types of cancers and tumors that may be able to be treated with antibodies that have been and may in the future be identified by our discovery platform, including ATRC-101 and ATRC-301, is based on estimates. These estimates may prove to be incorrect, and new studies may reduce the estimated incidence or prevalence of these diseases. The number of patients in the United States or elsewhere may turn out to be lower than expected, may not be otherwise amenable to treatment with our current or potential future product candidates or patients may become increasingly difficult to identify and access, all of which would adversely affect our business prospects and financial condition. In particular, the treatable population for ATRC-101 or ATRC-301 may be further reduced if our estimates of addressable populations are erroneous or sub-populations of patients do not derive benefit from ATRC-101 or ATRC-301.

Further, there are several factors that could contribute to making the actual number of patients who receive our current or potential future product candidates less than the potentially addressable market. These include the lack of widespread availability of, and limited reimbursement for, new therapies in many underdeveloped markets.

We face competition from entities that have developed or may develop product candidates for the treatment of the diseases that we may target, including companies developing novel treatments and technology platforms. If these companies develop technologies or product candidates more rapidly than we do, or if their technologies or product candidates are more effective, our ability to develop and successfully commercialize product candidates may be adversely affected.

The development and commercialization of drugs and therapeutic biologics is highly competitive. We compete with a variety of large pharmaceutical companies, multinational biopharmaceutical companies, other biopharmaceutical companies and specialized biotechnology companies, as well as technology being developed at universities and other research institutions. Our competitors are often larger and better funded than we are. Our competitors have developed, are developing or will develop product candidates and processes competitive with ours. Competitive therapeutic treatments include those that have already been approved and accepted by the medical community and any new treatments that are currently in development or that enter the market. We believe that a significant number of products are currently under development, and may become commercially available in the future, for the treatment of conditions for which we may try to develop product candidates. There is intense and rapidly evolving competition in the biotechnology, biopharmaceutical and antibody and immuno-oncology fields. We believe that while our discovery platform, its associated intellectual property, the characteristics of ATRC-101, ATRC-301 and potential future product candidates and our scientific and technical know-how together give us a competitive advantage in this space, competition from many sources remains.

We are aware of a number of companies that are developing antibodies for the treatment of cancer. Many of these companies are well-capitalized and, in contrast to us, have significant clinical experience, and may include our

future partners. In addition, these companies compete with us in recruiting scientific and managerial talent. Our success will partially depend on our ability to obtain, maintain, enforce and defend patents and other intellectual property rights with respect to antibodies that are safer and more effective than competing products. Our commercial opportunity and success will be reduced or eliminated if competing products that are safer, more effective, or less expensive than the antibodies we develop are or become available.

We expect to compete with antibody, biologics and other therapeutic platforms and development companies, including, but not limited to, companies such as Adaptive Biotechnologies Corporation, Neurimmune Holding AG, OncoResponse, Inc., and Vir Biotechnology, Inc. In addition, we expect to compete with large, multinational pharmaceutical companies that discover, develop and commercialize antibodies and other therapeutics for use in treating cancer such as AstraZeneca plc, Bristol-Myers Squibb Company, Genentech, Inc. and Merck & Co., Inc. If ATRC-101, ATRC-301 or potential future product candidates are eventually approved, they will compete with a range of treatments that are either in development or currently marketed. For example, we expect that ATRC-101, ATRC-301 and our potential future product candidates may compete against traditional cancer therapies, such as chemotherapy, as well as cell-based treatments for cancer, such as CAR-T therapies.

Many of our competitors have significantly greater financial, technical, manufacturing, marketing, sales and supply resources or experience than we do. If we successfully obtain approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our products, the ease with which our products can be administered, the timing and scope of regulatory approvals for these products, the availability and cost of manufacturing, marketing and sales capabilities, price, reimbursement coverage and patent position. Competing products could present superior treatment alternatives, including by being more effective, safer, less expensive or marketed and sold more effectively than any products we may develop. Competitive products may make any product we develop obsolete or noncompetitive before we recover the expense of developing and commercializing such product. Such competitors could also recruit our employees, which could negatively impact our level of expertise and our ability to execute our business plan.

Any inability to attract and retain qualified key management, technical personnel and employees would impair our ability to implement our business plan.

Our success largely depends on the continued service of key management, advisors and other specialized personnel, including John A. Orwin, our President and Chief Executive Officer, and Tito A. Serafini, our Chief Strategy Officer and Founder. We have a written employment agreement with each of Mr. Orwin and Dr. Serafini. The loss of one or more members of our executive team, management team or other key employees or advisors could delay our research and development programs and have a material and adverse effect on our business, financial condition, results of operations and prospects.

The relationships that our key managers have cultivated within our industry make us particularly dependent upon their continued employment with us. We are dependent on the continued service of our technical personnel because of the highly technical nature of our product candidates and technologies and the specialized nature of the regulatory approval process. Because our management team and key employees are not obligated to provide us with continued service, they could terminate their employment with us at any time without penalty. Our future success will depend in large part on our continued ability to attract and retain other highly qualified scientific, technical and management personnel, as well as personnel with expertise in clinical testing, manufacturing, governmental regulation and commercialization. We face competition for personnel from other companies, universities, public and private research institutions, government entities and other organizations.

As of June 30, 2022, we had 105 full-time employees. Our focus on the development of ATRC-101, ATRC-301 and potential future product candidates will require adequate staffing. We may need to hire and retain new employees to execute our future clinical development and manufacturing plans. We cannot provide assurance that we will be able to hire or retain adequate staffing levels to develop our current and potential future product candidates or run our operations or to accomplish all of our objectives.

We may experience difficulties in managing our growth and expanding our operations.

We have limited experience in product development. As our current and potential future product candidates enter and advance through preclinical studies and any clinical trials, we will need to expand our development, regulatory and manufacturing capabilities or contract with other organizations to provide these capabilities for us. We may also experience difficulties in the discovery and development of new potential future product candidates using our discovery platform if we are unable to meet demand as we grow our operations. In the future, we also expect to have to manage additional relationships with collaborators, suppliers and other organizations. Our ability to manage our operations and future growth will require us to continue to improve our operational, financial and management controls, reporting systems and procedures and secure adequate facilities for our operational needs. We may not be able to implement improvements to our management information and control systems in an efficient or timely manner and may discover deficiencies in existing systems and controls.

If any of our product candidates is approved for marketing and commercialization in the future and we are unable to develop sales, marketing and distribution capabilities on our own or enter into agreements with third parties to perform these functions on acceptable terms, we will be unable to successfully commercialize any such future products.

We currently have no sales, marketing or distribution capabilities or experience. We will need to develop internal sales, marketing and distribution capabilities to commercialize each current and potential future product candidate that gains FDA approval, which would be expensive and time-consuming, or enter into partnerships with third parties to perform these services. If we decide to market any approved products directly, we will need to commit significant financial and managerial resources to develop a marketing and sales force with technical expertise and supporting distribution, administration and compliance capabilities. If we rely on third parties with such capabilities to market any approved products or decide to co-promote products with partners, we will need to establish and maintain marketing and distribution arrangements with third parties, and there can be no assurance that we will be able to enter into such arrangements on acceptable terms or at all. In entering into third-party marketing or distribution arrangements, any revenue we receive will depend upon the efforts of the third parties and we cannot assure you that such third parties will establish adequate sales and distribution capabilities or be successful in gaining market acceptance for any approved product. If we are not successful in commercializing any product approved in the future, either on our own or through third parties, our business and results of operations could be materially and adversely affected.

Our future growth may depend, in part, on our ability to operate in foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future growth may depend, in part, on our ability to develop and commercialize product candidates in foreign markets for which we may rely on partnership with third parties. We will not be permitted to market or promote any product candidate before we receive regulatory approval from the applicable regulatory authority in a foreign market, and we may never receive such regulatory approval for any product candidate. To obtain separate regulatory approval in foreign countries, we generally must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales, pricing and distribution of a product candidate, and we cannot predict success in these jurisdictions. If we obtain approval of any of our current or potential future product candidates and ultimately commercialize any such product candidate in foreign markets, we would be subject to risks and uncertainties, including the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements and the reduced protection of intellectual property rights in some foreign countries.

Price controls imposed in foreign markets may adversely affect our future profitability.

In some countries, particularly member states of the European Union, the pricing of prescription drugs is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of marketing approval for a product. In addition, there can be considerable pressure exerted by governments and other stakeholders on prices and reimbursement levels, including as part of cost-containment measures. Political, economic and regulatory developments, in the United States or internationally, may

further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. In some countries, we or future partners may be required to conduct clinical trials or other studies that compare the cost-effectiveness of a product candidate to other available therapies in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If reimbursement of any current or potential future product candidate that is approved for marketing in the future is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business and results of operations or prospects could be materially and adversely affected and our ability to commercialize such product candidate could be materially impaired.

Our business entails a significant risk of product liability, and our inability to obtain sufficient insurance coverage could have a material and adverse effect on our business, financial condition, results of operations and prospects.

As we conduct clinical trials of ATRC-101, ATRC-301 or potential future product candidates, we will be exposed to significant product liability risks inherent in the development, testing, manufacturing and marketing of antibody treatments. Product liability claims could delay or prevent completion of our development programs. If we succeed in marketing products, such claims could result in an FDA investigation of the safety and effectiveness of our products, our manufacturing processes and facilities or our marketing programs and potentially a recall of our products or more serious enforcement action, limitations on the approved indications for which they may be used or suspension or withdrawal of approvals. Regardless of the merits or eventual outcome, liability claims may also result in decreased demand for our products, injury to our reputation, costs to defend the related litigation, a diversion of management's time and our resources, substantial monetary awards to trial participants or patients and a decline in our stock price. Any insurance we have or may obtain may not provide sufficient coverage against potential liabilities. Furthermore, clinical trial and product liability insurance is becoming increasingly expensive. As a result, our partners or we may be unable to obtain sufficient insurance at a reasonable cost to protect us against losses caused by product liability claims that could have a material and adverse effect on our business, financial condition, results of operations and prospects.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, consultants and commercial partners. Misconduct by employees could include intentional failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we may establish, comply with federal and state healthcare fraud and abuse laws and regulations, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in significant regulatory sanctions and serious harm to our reputation. For example, individuals conducting the non-interventional clinical studies that we sponsor through which we obtain antibodies for development into potential antibody-based therapeutics may violate applicable laws and regulations regarding patients' personal data. It is not always possible to identify and deter misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a material and adverse effect on our business and financial condition, including the imposition of significant criminal, civil, and administrative fines or other sanctions, such as monetary penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government-funded healthcare programs, such as Medicare and Medicaid, integrity obligations, reputational harm and the curtailment or restructuring of our operations.

Failure to comply with health and data protection laws and regulations could lead to government enforcement actions (which could include civil or criminal penalties), private litigation or adverse publicity and could negatively affect our operating results and business.

We and our current and potential collaborators may be subject to federal, state and foreign data protection laws and regulations (*i.e.*, laws and regulations that address privacy and data security). In the United States, numerous federal and state laws and regulations, including federal health information privacy laws (*e.g.*, the Health Insurance Portability and Accountability Act, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH), state data breach notification laws, state health information privacy laws and federal and state consumer protection laws (*e.g.*, Section 5 of the Federal Trade Commission Act), that govern the collection, use, disclosure and protection of health-related and other personal information could apply to our operations or the operations of our collaborators. In addition, we may obtain health information from third parties (including research institutions from which we obtain clinical trial data) that are subject to privacy and security requirements under HIPAA, as amended by HITECH, or other privacy and data security laws. Depending on the facts and circumstances, we could be subject to significant penalties if we obtain, use, or disclose individually identifiable health information maintained by a HIPAA-covered entity or business associate in a manner that is not authorized or permitted by HIPAA.

International data protection laws, including Regulation 2016/679, known as the General Data Protection Regulation (GDPR) may also apply to health-related and other personal information obtained outside of the United States. The GDPR went into effect on May 25, 2018. The GDPR introduced new data protection requirements in the European Union, as well as potential fines for noncompliant companies of up to the greater of e20 million or 4% of annual global revenue. The regulation imposes numerous new requirements for the collection, use and disclosure of personal information, including more stringent requirements relating to consent and the information that must be shared with data subjects about how their personal information is used, the obligation to notify regulators and affected individuals of personal data breaches, extensive new internal privacy governance obligations and obligations to honor expanded rights of individuals in relation to their personal information (*e.g.*, the right to access, correct and delete their data). In addition, the GDPR includes restrictions on cross-border data transfers. The GDPR will increase our responsibility and liability in relation to personal data that we process where such processing is subject to the GDPR, and we may be required to put in place additional mechanisms to ensure compliance with the GDPR, including as implemented by individual countries. Further, the United Kingdom's vote in favor of exiting the EU, often referred to as Brexit, has created uncertainty with regard to data protection regulation in the United Kingdom. In particular, it is unclear how data transfers to and from the United Kingdom will be regulated.

In addition, California enacted the California Consumer Privacy Act (CCPA), which creates individual privacy rights for California consumers (as defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA requires covered companies to provide new disclosure to consumers about such companies' data collection, use and sharing practices, provide such consumers new ways to opt-out of certain sales or transfers of personal information, and provide consumers with additional causes of action. The CCPA went into effect on January 1, 2020, and the California Attorney General may bring enforcement actions for violations beginning July 1, 2020. The CCPA was amended on September 23, 2018, and it remains unclear what, if any, further modifications will be made to this legislation or how it will be interpreted. As currently written, the CCPA may impact our business activities and exemplifies the vulnerability of our business to the evolving regulatory environment related to personal data and protected health information.

Compliance with U.S. and international data protection laws and regulations could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions. Failure to comply with U.S. and international data protection laws and regulations could result in government enforcement actions (which could include civil or criminal penalties), private litigation or adverse publicity and could negatively affect our operating results and business. Moreover, clinical trial subjects about whom we or our potential collaborators obtain information, as well as the providers who share this information with us, may contractually limit our ability to use and disclose the information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws, or breached our contractual obligations, even if we are not found liable, could be expensive and time consuming to defend and could result in adverse publicity that could harm our business.

If we experience security or data privacy breaches or other unauthorized or improper access to, use of, or destruction of our proprietary or confidential data, employee data or personal data, we may face costs, significant liabilities, harm to our brand and business disruption.

In connection with our discovery platform and efforts, we may collect and use a variety of personal data, such as name, mailing address, email addresses, phone number and clinical trial information. Although we have extensive measures in place to prevent the sharing and loss of patient data in our sample collection process associated with our discovery platform, any failure to prevent or mitigate security breaches or improper access to, use of, or disclosure of our clinical data or patients' personal data could result in significant liability under state (*e.g.*, state breach notification laws), federal (*e.g.*, HIPAA, as amended by HITECH), and international law (*e.g.*, the GDPR). Any failure to prevent or mitigate security breaches or improper access to, use of, or disclosure of our clinical data or patients' personal data may cause a material adverse impact to our reputation, affect our ability to conduct new studies and potentially disrupt our business. We may also rely on third-party service providers to host or otherwise process some of our data and that of users, and any failure by such third party to prevent or mitigate security breaches or improper access to or disclosure of such information could have similarly adverse consequences for us. If we are unable to prevent or mitigate the impact of such security or data privacy breaches, we could be exposed to litigation and governmental investigations, which could lead to a potential disruption to our business.

We depend on sophisticated information technology systems to operate our business and a cyber-attack or other breach of these systems could have a material adverse effect on our business.

We rely on information technology systems that we or our third-party vendors operate to process, transmit and store electronic information in our day-to-day operations. The size and complexity of our information technology systems makes them vulnerable to a cyber-attack, malicious intrusion, breakdown, destruction, loss of data privacy or other significant disruption. A successful attack could result in the theft or destruction of intellectual property, data, or other misappropriation of assets, or otherwise compromise our confidential or proprietary information and disrupt our operations. Cyber-attacks are becoming more sophisticated and frequent. We have invested in our systems and the protection and recoverability of our data to reduce the risk of an intrusion or interruption, and we monitor and test our systems on an ongoing basis for any current or potential threats. There can be no assurance that these measures and efforts will prevent future interruptions or breakdowns. If we or our third-party vendors fail to maintain or protect our information technology systems and data integrity effectively or fail to anticipate, plan for or manage significant disruptions to these systems, we or our third-party vendors could have difficulty preventing, detecting and controlling such cyber-attacks and any such attacks could result in losses described above as well as disputes with physicians, patients and our partners, regulatory sanctions or penalties, increases in operating expenses, expenses or lost revenues or other adverse consequences, any of which could have a material adverse effect on our business, results of operations, financial condition, prospects and cash flows.

Our information technology systems could face serious disruptions that could adversely affect our business.

Our information technology and other internal infrastructure systems, including corporate firewalls, servers, leased lines and connection to the internet, face the risk of systemic failure that could disrupt our operations. A significant disruption in the availability of our information technology and other internal infrastructure systems could cause interruptions and delays in our research and development work.

If we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.

Our research, development and manufacturing involves the use of hazardous materials and various chemicals. We maintain quantities of various flammable and toxic chemicals in our facilities that are required for our research, development and manufacturing activities. We are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. We believe our procedures for storing, handling and disposing of these materials in our facilities comply with the relevant guidelines of the state of California and the Occupational Safety and Health Administration of the U.S. Department of Labor. Although we believe that our safety procedures for handling and disposing of these materials comply with the standards mandated by applicable

regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of animals and biohazardous materials. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of these materials, this insurance may not provide adequate coverage against potential liabilities. Although we have some environmental liability insurance covering certain of our facilities, we may not maintain adequate insurance for all environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological or hazardous materials. Additional federal, state and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

Our current operations are concentrated in one location, and we or the third parties upon whom we depend may be adversely affected by natural or other disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our current operations are concentrated in the San Francisco Bay Area. Any unplanned event, such as flood, fire, explosion, extreme weather condition, medical epidemics, power shortage, telecommunication failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities or the manufacturing facilities of our third-party contract manufacturers, or lose our repository of blood-based and other valuable laboratory samples, may have a material and adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on our financial and operating conditions. Loss of access to these facilities may result in increased costs, delays in the development of our product candidates or interruption of our business operations. Natural disasters such as earthquakes or wildfires, both of which are prevalent in Northern California, floods or tsunamis could further disrupt our operations, and have a material negative impact on our business, financial condition, results of operations and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our research facilities or the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business. However, in the event of an accident or incident at these facilities, we cannot assure you that the amounts of insurance will be sufficient to satisfy any damages and losses. If our facilities, or the manufacturing facilities of our third-party contract manufacturers, are unable to operate because of an accident or incident or for any other reason, even for a short period of time, any or all of our research and development programs may be harmed. Any business interruption may have a material and adverse effect on our business and financial condition.

Risks Related to Our Intellectual Property

If we are unable to obtain or protect intellectual property rights related to our technology and current or future product candidates, or if our intellectual property rights are inadequate, we may not be able to compete effectively.

Our success depends in part on our ability to obtain and maintain protection for our owned and in-licensed intellectual property rights and proprietary technology. We rely on patents and other forms of intellectual property rights, including in-licenses of intellectual property rights and biologic materials of others, to protect our current or future discovery platform, product candidates, methods used to manufacture our current or future product candidates, and methods for treating patients using our current or future product candidates.

We in-license exclusive rights, including patents and patent applications relating to our discovery platform, from the Board of Trustees of the Leland Stanford Junior University, or Stanford University. Patent applications for this in-licensed technology are still pending before the U.S. Patent and Trademark Office and other national patent offices.

There is no guarantee that such patent applications will issue as patents, nor any guarantee that issued patents will provide adequate protection for the in-licensed technology or any meaningful competitive advantage.

We also own several patents and applications on our own technology relating to our discovery platform. There is no guarantee that any patents covering this technology will issue from the patent applications we own, or, if they do, that the issued claims will provide adequate protection for our discovery platform or any meaningful competitive advantage.

We own pending nonprovisional patent applications in connection with ATRC-101 and related antibody variants. However, there is no guarantee that any current or future patent applications will result in the issuance of patents that will effectively protect ATRC-101, ATRC-301 or other product candidates or will effectively prevent others from commercializing competitive products.

We have filed and may also file additional provisional patent applications in the United Stated related to our product candidates. A provisional patent application is not eligible to become an issued patent until, among other things, we file a non-provisional patent application within 12 months of the filing date of the provisional patent application. If we do not timely file non-provisional patent applications for our potential future provisional patent applications, we may lose our priority date with respect to our provisional patent applications and any patent protection on the inventions disclosed in our provisional patent applications.

The patent prosecution process is expensive, complex and time-consuming. Patent license negotiations also can be complex and protracted, with uncertain results. We may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patents and patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. The patent applications that we own or in-license may fail to result in issued patents, and, even if they do issue as patents, such patents may not cover our current or future technologies or product candidates in the United States or in other countries or provide sufficient protection from competitors. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued and its scope can be reinterpreted after issuance. Accordingly, we also rely on our ability to preserve our trade secrets, to prevent third parties from infringing, misappropriating or violating our proprietary rights and to operate without infringing, misappropriating, or violating the proprietary rights of others.

Further, although we make reasonable efforts to ensure patentability of our inventions, we cannot guarantee that all of the potentially relevant prior art relating to our owned or in-licensed patents and patent applications has been found. For example, publications of discoveries in scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, and in some cases not at all. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our discovery platform, our product candidates, or the use of our technologies. We thus cannot know with certainty whether we or our licensors were the first to make the inventions claimed in our owned or in-licensed patents or pending applications, or that we or our licensors were the first to file for patent protection of such inventions. There is no assurance that all potentially relevant prior art relating to our owned or in-licensed patents and patent applications has been found. For this reason, and because there is no guarantee that any prior art search is absolutely correct and comprehensive, we may be unaware of prior art that could be used to invalidate an issued patent or to prevent our owned or in-licensed pending patent applications from issuing as patents. Invalidation of any of our patent rights, including in-licensed patent rights, could materially harm our business.

Moreover, the patent positions of biopharmaceutical companies are generally uncertain because they may involve complex legal and factual considerations that have, in recent years, been the subject of legal development and change. As a result, the issuance, scope, validity, enforceability and commercial value of our pending patent rights is uncertain. The standards applied by the United States Patent and Trademark Office, or USPTO, and foreign patent offices in granting patents are not always certain and moreover, are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in patents. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our owned or in-licensed patents or narrow the scope of our patent protection.

Even if patents do successfully issue and even if such patents cover our current or any future technologies or product candidates, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed, invalidated, or held unenforceable. Any successful challenge to these patents or any other patents owned by or licensed to us could deprive us of rights necessary for the successful commercialization of any current or future technologies or product candidates that we may develop. Likewise, if patent applications we own or have in-licensed with respect to our development programs and current or future technologies or product candidates fail to issue, if their breadth or strength is threatened, or if they fail to provide meaningful exclusivity, other companies could be dissuaded from collaborating with us to develop current or future technologies or product candidates. Lack of valid and enforceable patent protection could threaten our ability to commercialize current or future products and could prevent us from maintaining exclusivity with respect to the invention or feature claimed in the patent applications. Any failure to obtain or any loss of patent protection could have a material adverse impact on our business and ability to achieve profitability. We may be unable to prevent competitors from entering the market with a product that is similar to or the same as ATRC-101, ATRC-301 or future product candidates.

The filing of a patent application or the issuance of a patent is not conclusive as to its ownership, inventorship, scope, patentability, validity or enforceability. Issued patents and patent applications may be challenged in the courts and in the patent office in the United States and abroad. For example, our applications or applications filed by our licensors may be challenged through third-party submissions, opposition or derivation proceedings. By further example, our issued patents or the issued patents we in-license may be challenged through reexamination, *inter partes* review or post-grant review proceedings before the patent office, or in declaratory judgment actions or counterclaims. An adverse determination in any such submission, proceeding or litigation could prevent the issuance of, reduce the scope of, invalidate or render unenforceable our owned or in-licensed patent rights; limit our ability to stop others from using or commercializing similar or identical platforms and products; allow third parties to compete directly with us without payment to us; or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our owned or in-licensed patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future platforms or product candidates. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Moreover, some of our owned and in-licensed patents and patent applications are or may in the future be co-owned with third parties. If we are unable to obtain an exclusive license to any such third party co-owners' interest in such patents or patent application, such co-owners may be able to license their rights to other third-parties, including our competitors, and our competitors could market competing products and technology. We may need the cooperation of any such co-owners of our patents to enforce such patents against third parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on our competitive position, business prospects and financial conditions.

Our in-licensed patent rights may be subject to a reservation of rights by one or more third parties. For example, we in-license certain patent rights from Stanford University, which co-owns rights with a governmental entity. As a result, the U.S. government may have certain rights, including so-called march-in rights, to such patent rights and any products or technology developed from such patent rights. When new technologies are developed with U.S. government funding, the U.S. government generally obtains certain rights in any resulting patents, including a nonexclusive license authorizing the U.S. government to use the invention for non-commercial purposes. These rights may permit the U.S. government to disclose our confidential information to third parties and to exercise march-in rights to use or to allow third parties to use our licensed technology. The U.S. government can exercise its march-in rights if it determines that action is necessary because we fail to achieve the practical application of government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. Any exercise by the U.S. government of such rights could harm our competitive position, business, financial condition, results of operations and prospects.

If we fail to comply with our obligations under any license, collaboration or other intellectual property-related agreements, we may be required to pay damages and could lose intellectual property rights that may be necessary for developing, commercializing and protecting our current or future technologies or product candidates or we could lose certain rights to grant sublicenses.

We are heavily reliant upon in-licenses to certain patent rights and proprietary technology from third parties that are important or necessary to our discovery platform and development of product candidates. For example, we rely on an intellectual property license from Stanford University for our discovery platform.

Our current license agreements impose, and any future license agreements we enter into are likely to impose, various development, commercialization, funding, milestone, royalty, diligence, sublicensing, insurance, patent prosecution and enforcement or other obligations on us. If we breach any of these obligations, or use the intellectual property licensed to us in an unauthorized manner, we may be required to pay damages and the licensor may have the right to terminate the license. License termination could result in our inability to develop, manufacture and sell products that are covered by the licensed technology or could enable a competitor to gain access to the licensed technology. In certain circumstances, our licensed patent rights are subject to our reimbursing our licensors for their patent prosecution and maintenance costs. For example, our license agreement with Stanford University requires us to bear the costs of filing and maintaining patent applications.

Furthermore, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement and defense of patents and patent applications that we license from third parties. For example, pursuant to our license agreement with Stanford University, while we direct and are responsible for the preparation, filing, prosecution and maintenance, and, in certain circumstances, enforcement and defense of the patents and patent applications, all of these actions are subject to Stanford University's final approval. Given Stanford University's right of final approval, we therefore cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, enforced and defended in a manner consistent with the best interests of our business. If our licensors and future licensors fail to prosecute, maintain, enforce and defend patents we may license, or lose rights to licensed patents or patent applications, our license rights may be reduced or eliminated. In such circumstances, our right to develop and commercialize any of our products or product candidates that is the subject of such licensed rights could be materially adversely affected.

Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing, misappropriating or otherwise violating the licensor's intellectual property rights. In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products if infringement or misappropriation were found, those amounts could be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

In addition, the agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse impact on our business and ability to achieve profitability. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize any affected product candidates, which could have a material adverse effect on our business and financial conditions.

Patent terms may not be able to protect our competitive position for an adequate period of time with respect to our current or future technologies or product candidates.

Patents have a limited lifespan. In the United States, the standard patent term is typically 20 years after filing. Various extensions may be available. Even so, the life of a patent and the protection it affords are limited. As a result,

our owned and in-licensed patent portfolio provides us with limited rights that may not last for a sufficient period of time to exclude others from commercializing products similar or identical to ours. For example, given the large amount of time required for the research, development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized.

Extensions of patent term are available, but there is no guarantee that we would succeed in obtaining any particular extension—and no guarantee any such extension would confer patent term for a sufficient period of time to exclude others from commercializing products similar or identical to ours. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent, which is limited to the approved indication (or any additional indications approved during the period of extension). A patent term extension cannot extend the remaining term of a patent beyond 14 years from the date of product approval; only one patent may be extended; and extension is available for only those claims covering the approved drug, a method for using it, or a method for manufacturing it. The applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. An extension may not be granted or may be limited where there is, for example, a failure to exercise due diligence during the testing phase or regulatory review process, failure to apply within applicable deadlines, failure to apply before expiration of relevant patents, or some other failure to satisfy applicable requirements. If this occurs, our competitors may be able to launch their products earlier by taking advantage of our investment in development and clinical trials along with our clinical and preclinical data. This could have a material adverse effect on our business and ability to achieve profitability.

Changes in U.S. patent law or the patent law of other countries or jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our current or any future technologies or product candidates.

Changes in either the patent laws or interpretation of the patent laws in the United States or elsewhere could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. The United States has enacted and implemented wide-ranging patent reform legislation. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law, which could increase the uncertainties and costs surrounding the prosecution of our owned or in-licensed patent applications and the enforcement or defense of our owned or in-licensed issued patents. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art, may affect patent litigation and switch the U.S. patent system from a ‘‘first-to-invent’’ system to a ‘‘first-to-file’’ system. Under a first-to-file system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether another inventor had made the invention earlier. These provisions also allow third-party submission of prior art to the USPTO during patent prosecution and set forth additional procedures to challenge the validity of a patent by the USPTO administered post grant proceedings, including derivation, reexamination, *inter partes* review, post-grant review and interference proceedings. The USPTO developed additional regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and, in particular, the first-to-file provisions, became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. The Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our owned or in-licensed patent applications and the enforcement or defense of our issued owned or in-licensed patents, all of which could have a material adverse impact on our business prospects and financial condition.

As referenced above, for example, courts in the U.S. continue to refine the heavily fact-and-circumstance-dependent jurisprudence defining the scope of patent protection available for therapeutic antibodies, narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. This creates uncertainty about our ability to obtain patents in the future and the value of such patents. We cannot provide assurance that future developments in U.S. Congress, the federal courts and the USPTO will not adversely impact our owned or in-licensed patents or patent applications. The laws and regulations governing patents could change in unpredictable ways that could weaken our and our licensors’ ability to obtain new patents or to enforce our existing owned or in-licensed patents and patents that we might obtain or in-license in the future. Similarly, changes in patent law

and regulations in other countries or jurisdictions or changes in the governmental bodies that enforce them or changes in how the relevant governmental authority enforces patent laws or regulations may have a material adverse effect on our and our licensors' ability to obtain new patents or to protect and enforce our owned or in-licensed patents or patents that we may obtain or in-license in the future.

Other companies or organizations may challenge our or our licensors' patent rights or may assert patent rights that prevent us from developing and commercializing our current or future products.

As the field of antibody-based immunotherapeutics matures, patent applications are being processed by national patent offices around the world. There is uncertainty about which patents will issue, and, if they do, there is uncertainty as to when, to whom, and with what claims. In addition, third parties may attempt to invalidate our or our licensors' intellectual property rights. Even if such rights are not directly challenged, disputes could lead to the weakening of our or our licensors' intellectual property rights. Our defense against any attempt by third parties to circumvent or invalidate our intellectual property rights could be costly to us, could require significant time and attention of our management, and could have a material and adverse impact on our profitability, financial condition and prospects or ability to successfully compete.

There are many issued and pending patents that claim aspects of our current or potential future product candidates and modifications that we may need to apply to our current or potential future product candidates. There are also many issued patents that claim antibodies or portions of antibodies that may be relevant for products we wish to develop.

Further, we cannot guarantee that we are aware of all of patents and patent applications potentially relevant to our technology or products. We may not be aware of potentially relevant third-party patents or applications for several reasons. For example, U.S. applications filed before November 29, 2000, and certain U.S. applications filed after that date that will not be filed outside the U.S. remain confidential until patents issue. Patent applications in the United States and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our product candidates or platform technologies could have been filed by others without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our platform, our product candidates or the use of our technologies.

Thus, it is possible that one or more third parties will hold patent rights to which we will need a license, which may not be available on reasonable terms or at all. If such third parties refuse to grant us a license to such patent rights on reasonable terms or at all, we may be required to expend significant time and resources to redesign our technology, product candidates or the methods for manufacturing our product candidates, or to develop or license replacement technology, all of which may not be commercially or technically feasible. In such case, we may not be able to market such technology or product candidates and may not be able to perform research and development or other activities covered by these patents. This could have a material adverse effect on our ability to commercialize our product candidates and our business and financial condition.

We may not be able to protect our intellectual property rights throughout the world, which could negatively impact our business.

Filing, prosecuting and defending patents on current or future technologies or product candidates in all countries throughout the world would be prohibitively expensive. Competitors or other third parties may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export infringing products to territories where we have patent protection or licenses but enforcement is not as strong as that in the United States. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Additionally, the laws of some foreign jurisdictions do not protect intellectual property rights to the same extent as the laws in the United States. Many companies have encountered significant difficulties in protecting and defending such rights in such jurisdictions. The legal systems of certain countries, including certain developing countries, do not

favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our owned and in-licensed patents or the marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our owned or in-licensed intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and could divert our efforts and attention from other aspects of our business. Such proceedings could also put our owned or in-licensed patents at risk of being invalidated or interpreted narrowly, could put our owned or in-licensed patent applications at risk of not issuing, and could provoke third parties to assert claims against us or our licensors. We or our licensors may not prevail in any lawsuits or other adversarial proceedings that we or our licensors initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our and our licensors' efforts to enforce such intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or in-license.

Further, many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of its patents. If we or any of our licensors are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position in the relevant jurisdiction may be impaired and our business prospects may be materially adversely affected.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse impact on the success of our business.

Our commercial success depends, in part, upon our ability or the ability of our potential future collaborators to develop, manufacture, market and sell our current or any future product candidates and to use our proprietary technologies without infringing, misappropriating or violating the proprietary and intellectual property rights of third parties. The biotechnology and pharmaceutical industries are characterized by extensive and complex litigation regarding patents and other intellectual property rights.

We or our licensors, or any future strategic partners, may be party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our current or any potential future product candidates and technologies, including derivation, reexamination, *inter parte*s review, post-grant review or interference proceedings before the USPTO and similar proceedings in jurisdictions outside of the United States such as opposition proceedings. In some instances, we may be required to indemnify our licensors for the costs associated with any such adversarial proceedings or litigation. For example, we are obligated under our license agreement with Stanford University to indemnify, hold harmless and defend Stanford University for damages from any claim of any kind arising out of or related to the license agreement with Stanford University. Third parties may assert infringement claims against us, our licensors or our strategic partners based on existing patents or patents that may be granted in the future, regardless of their merit. There is a risk that third parties may choose to engage in litigation or other adversarial proceedings with us, our licensors or our strategic partners to enforce or otherwise assert their patent rights. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, which could have a material adverse impact on our ability to utilize our discovery platform or to commercialize our current or any future product candidates. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity by presenting clear and convincing evidence of invalidity. There is no assurance that a court of competent jurisdiction, even if presented with evidence we believe to be clear and convincing, would invalidate the claims of any such U.S. patent.

Further, we cannot guarantee that we will be able to successfully settle or otherwise resolve such adversarial proceedings or litigation. If we are unable to successfully settle future claims on terms acceptable to us, we may be required to engage in or to continue costly, unpredictable and time-consuming litigation and may be prevented from or experience substantial delays in marketing our product candidates. If we, or our licensors, or any future strategic partners are found to infringe, misappropriate or violate a third-party patent or other intellectual property rights, we could be required to pay damages, including treble damages and attorney's fees, if we are found to have willfully infringed. In addition, we, or our licensors, or any future strategic partners may choose to seek, or be required to seek, a license from a

third party, which may not be available on commercially reasonable terms, if at all. Even if a license can be obtained on commercially reasonable terms, the rights may be non-exclusive, which could give our competitors access to the same technology or intellectual property rights licensed to us, and we could be required to make substantial licensing and royalty payments. We also could be forced, including by court order, to cease utilizing, developing, manufacturing and commercializing our discovery platform or product candidates deemed to be infringing. We may be forced to redesign current or future technologies or products. Any of the foregoing could have a material adverse effect on our ability to generate revenue or achieve profitability and possibly prevent us from generating revenue sufficient to sustain our operations.

In addition, we or our licensors may find it necessary to pursue claims or to initiate lawsuits to protect or enforce our owned or in-licensed patent or other intellectual property rights. The cost to us in defending or initiating any litigation or other proceeding relating to our owned or in-licensed patent or other intellectual property rights, even if resolved in our favor, could be substantial, and any litigation or other proceeding would divert our management's attention. Such litigation or proceedings could materially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. Some of our competitors may be able to more effectively to sustain the costs of complex patent litigation because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could delay our research and development efforts and materially limit our ability to continue our operations. Furthermore, because of the substantial amount of discovery required in connection with certain such proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, such announcements could have a material adverse effect on the price of our Class A common stock.

If we or our licensors were to initiate legal proceedings against a third party to enforce a patent covering one of our product candidates or our technology, the defendant could counterclaim that such patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, claiming patent-ineligible subject matter, lack of novelty, indefiniteness, lack of written description, non-enablement, anticipation or obviousness. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. The outcome of such invalidity and unenforceability claims is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art of which we or our licensors and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we could lose at least part, and perhaps all, of the patent protection for one or more of our product candidates or certain aspects of our platform technology. Such a loss of patent protection could have a material adverse effect on our business, financial condition, results of operations and prospects. Patents and other intellectual property rights also will not protect our product candidates and technologies if competitors or third parties design around such product candidates and technologies without legally infringing, misappropriating or violating our owned or in-licensed patents or other intellectual property rights.

Intellectual property rights of third parties could adversely affect our ability to commercialize our current or future technologies or product candidates, and we might be required to litigate or obtain licenses from third parties to develop or market our current or future technologies or product candidates, which may not be available on commercially reasonable terms or at all.

Because the antibody landscape is still evolving, it is difficult to conclusively assess our freedom to operate without infringing, misappropriating or violating third-party rights. There are numerous companies that have pending patent applications and issued patents broadly covering antibodies generally or covering antibodies directed against the same targets as, or targets similar to, those we are pursuing. Our competitive position may materially suffer if patents issued to third parties or other third-party intellectual property rights cover our current or future technologies product candidates or elements thereof or our manufacture or uses relevant to our development plans. In such cases, we may not be in a position to develop or commercialize current or future technologies, product candidates unless we successfully pursue litigation to nullify or invalidate the third-party intellectual property right concerned, or enter into a license

agreement with the intellectual property right holder, if available on commercially reasonable terms. There may be issued patents of which we are not aware, held by third parties that, if found to be valid and enforceable, could be alleged to be infringed by our current or future technologies or product candidates. There also may be pending patent applications of which we are not aware that may result in issued patents, which could be alleged to be infringed by our current or future technologies or product candidates. If such an infringement claim should successfully be brought, we may be required to pay substantial damages or be forced to abandon our current or future technologies or product candidates or to seek a license from any patent holders. No assurances can be given that a license will be available on commercially reasonable terms, if at all.

Third party intellectual property right holders may also actively bring infringement, misappropriation or violation or other claims alleging violations of intellectual property rights against us. We cannot guarantee that we will be able to successfully settle or otherwise resolve such claims. If we are unable to successfully settle future claims on terms acceptable to us, we may be required to engage in or to continue costly, unpredictable and time-consuming litigation and may be prevented from or experience substantial delays in marketing our product candidates. If we fail in any such dispute, in addition to being forced to pay damages, we may be temporarily or permanently prohibited from commercializing any of our current or future technologies or product candidates that are held to be infringing, misappropriating or otherwise violating third-party intellectual property rights. We might, if possible, also be forced to redesign current or future technologies or product candidates so that we no longer infringe, misappropriate or violate the third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business, which could have a material adverse effect on our financial condition and results of operations.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

As referenced above, in addition to seeking patent protection for certain aspects of our current or future technologies and product candidates, we also consider trade secrets, including confidential and unpatented know-how, important to the maintenance of our competitive position. However, trade secrets and know-how can be difficult to protect. We protect and plan to protect trade secrets and confidential and unpatented know-how, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to such knowledge, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants under which they are obligated to maintain confidentiality and to assign their inventions to us. Despite these efforts, we may not obtain these agreements in all circumstances. Moreover, individuals with whom we have such agreements may not comply with their terms. Any of these parties may breach such agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for any such breaches. We may also become involved in inventorship disputes relating to inventions and patents developed by our employees or consultants under such agreements. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret, or securing title to an employee- or consultant-developed invention if a dispute arises, is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts in the United States and certain foreign jurisdictions disfavor or are unwilling to protect trade secrets. Further, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent that competitor from using the technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be materially and adversely harmed.

We may be subject to claims that we or our employees or consultants have wrongfully used or disclosed alleged trade secrets or other proprietary information of our employees' or consultants' former employers or their clients.

Many of our employees or consultants and our licensors' employees or consultants were previously employed at universities or biotechnology or biopharmaceutical companies, including our competitors or potential competitors. We may be subject to claims that one or more of these employees or consultants or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of former employers. Litigation or arbitration may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or may be enjoined from using such intellectual property.

Any such proceedings and possible aftermath would likely divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities. A loss of key research personnel or their work product could limit our ability to commercialize, or prevent us from commercializing, our current or future technologies or product candidates, which could materially harm our business. Even if we are successful in defending against any such claims, litigation or arbitration could result in substantial costs and could be a distraction to management.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents or applications will be due to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our owned and in-licensed patents or applications and any patent rights we may own or in-license in the future. The USPTO and various non-U.S. government patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply with these requirements, and we are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our in-licensed intellectual property. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market with similar or identical products or platforms, which could have a material adverse effect on our business prospects and financial condition.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we use for name recognition by potential partners or customers in our markets of interest. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be materially adversely affected.

Intellectual property rights do not necessarily address all potential threats to our business.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business. The following examples are illustrative:

- others may be able to make compounds or formulations that are similar to our product candidates, but that are not covered by the claims of any patents that we own, license or control;
- we or any strategic partners might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own, license or control;
- we or our licensors might not have been the first to file patent applications covering certain of our owned and in-licensed inventions;
- others may independently develop the same, similar, or alternative technologies without infringing, misappropriating or violating our owned or in-licensed intellectual property rights;
- it is possible that our owned or in-licensed pending patent applications will not lead to issued patents;
- issued patents that we own, in-license, or control may not provide us with any competitive advantages, or may be narrowed or held invalid or unenforceable, including as a result of legal challenges;
- our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights, and may then use the information learned from such activities to develop competitive products for sale in our major commercial markets;

- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such trade secrets or know-how; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they could have a material adverse impact on our business and financial condition.

Risks Related to Government Regulation

Clinical development includes a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results.

ATRC-101 is in early clinical development and ATRC-301 is in preclinical development and their risk of failure is high. It is impossible to predict when or if ATRC-101, ATRC-301 or any potential future product candidates will prove effective and safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical studies and then conduct extensive clinical trials to demonstrate the safety and efficacy of that product candidate in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the development process. The results of preclinical studies and early clinical trials of any of our current or potential future product candidates may not be predictive of the results of later-stage clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or safety profiles, notwithstanding promising results in earlier trials.

We may experience delays in completing our preclinical studies and initiating or completing clinical trials of ATRC-101, ATRC-301 or potential future product candidates. We do not know whether planned preclinical studies and clinical trials will be completed on schedule or at all, or whether planned clinical trials will begin on time, need to be redesigned, enroll patients on time or be completed on schedule, if at all. Our development programs may be delayed for a variety of reasons, including delays related to:

- the FDA or other regulatory authorities requiring us to submit additional data or imposing other requirements before permitting us to initiate a clinical trial;
- obtaining regulatory approval to commence a clinical trial;
- reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- obtaining institutional review board, or IRB, approval at each clinical trial site;
- recruiting suitable patients to participate in a clinical trial;
- having patients complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or dropping out of a trial;
- adding new clinical trial sites; or
- manufacturing sufficient quantities of our product candidates for use in clinical trials.

Furthermore, we expect to rely on our CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials and, while we expect to enter into agreements governing their committed activities, we have limited influence over their actual performance.

We could encounter delays if prescribing physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our current or potential future product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles. Further, a clinical trial may be suspended or terminated by us, our partners, the IRBs of the institutions in which such trials are being conducted, the Data Safety Monitoring Board for such trial or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial

operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug or therapeutic biologic, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience delays in the completion of, or termination of, any clinical trial of any of our current or potential future product candidates, the commercial prospects of such product candidate will be harmed, and our ability to generate product revenue from such product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow our product development and approval process and jeopardize our ability to commence product sales and generate revenue. Any of these occurrences may materially and adversely affect our business, financial condition, results of operations and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our current or potential future product candidates.

We may be unable to obtain U.S. or foreign regulatory approval and, as a result, be unable to commercialize ATRC-101, ATRC-301 or potential future product candidates.

ATRC-101, ATRC-301 and any potential future product candidates are subject to extensive governmental regulations relating to, among other things, research, testing, development, manufacturing, safety, efficacy, approval, recordkeeping, reporting, labeling, storage, packaging, advertising and promotion, pricing, marketing and distribution of drugs and therapeutic biologics. Rigorous preclinical testing and clinical trials and an extensive regulatory approval process are required to be successfully completed in the U.S. and in many foreign jurisdictions before a new drug or therapeutic biologic can be marketed. Satisfaction of these and other regulatory requirements is costly, time-consuming, uncertain and subject to unanticipated delays. It is possible that none of the product candidates we may develop will obtain the regulatory approvals necessary for us or our potential future partners to begin selling them.

We have very limited experience in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA. The time required to obtain FDA and other approvals is unpredictable but typically takes many years following the commencement of clinical trials, depending upon the type, complexity and novelty of the product candidate. The standards that the FDA and its foreign counterparts use when regulating us require judgment and can change, which makes it difficult to predict with certainty how they will be applied. Any analysis we perform of data from preclinical and clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent regulatory approval. We may also encounter unexpected delays or increased costs due to new government regulations, for example, from future legislation or administrative action, or from changes in FDA policy during the period of product development, clinical trials and FDA regulatory review. It is impossible to predict whether legislative changes will be enacted, or whether FDA or foreign regulations, guidance or interpretations will be changed, or what the impact of such changes, if any, may be.

Because ATRC-101, ATRC-301 or potential future product candidates we are developing may work through mechanisms of action or work against targets with which the FDA has limited early experience, the FDA and its foreign counterparts have not yet established any definitive policies, practices or guidelines in relation to these product candidates. While we believe these product candidates are regulated as therapeutic biologics that are subject to requirements for review and approval of a Biologics License Application, or BLA, by the FDA, the lack of policies, practices or guidelines may hinder or slow review by the FDA of any regulatory filings that we may submit. Moreover, the FDA may respond to these submissions by defining requirements we may not have anticipated. Such responses could lead to significant delays in the clinical development of these product candidates, including ATRC-101. In addition, because there may be approved treatments for some of the diseases for which we may seek approval, in order to receive regulatory approval, we may need to demonstrate through clinical trials that the current or potential future product candidates we develop to treat these diseases, if any, are not only safe and effective, but safer or more effective than existing products.

Any delay or failure in obtaining required approvals could have a material and adverse effect on our ability to generate revenue from the particular product candidate for which we are seeking approval. Further, we and our potential future partners may never receive approval to market and commercialize any product candidate. Even if we or a potential future partner obtains regulatory approval, the approval may be for targets, disease indications or patient populations that are not as broad as we intended or desired or may require labeling that includes significant use or distribution restrictions

or safety warnings. We or a potential future partner may be subject to post-marketing testing requirements to maintain regulatory approval. If ATRC-101, ATRC-301 or any of our potential future product candidates prove to be ineffective, unsafe or commercially unviable, we may have to re-engineer ATRC-101, ATRC-301 or our potential future product candidates, and our entire pipeline could have little, if any, value, which could require us to change our focus and approach to antibody discovery and development, which would have a material and adverse effect on our business, financial condition, results of operations and prospects.

We are also subject to numerous foreign regulatory requirements governing, among other things, the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement. The foreign regulatory approval process varies among countries and may include all of the risks associated with FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions. Moreover, the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities outside the United States and vice versa.

Even if we receive regulatory approval for any of our current or potential future product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our current or potential future product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.

Any regulatory approvals that we or potential future partners obtain for ATRC-101, ATRC-301 or any potential future product candidate may also be subject to limitations on the approved indicated uses for which a product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including "Phase 4" clinical trials, and surveillance to monitor the safety and efficacy of such product candidate. In addition, if the FDA or other regulatory authority approves ATRC-101, ATRC-301 or any potential future product candidate, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, import, export, advertising, promotion and recordkeeping for such product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMP and good clinical practices for any clinical trials that we conduct post-approval. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or our strategic partners;
- suspension or revocation of product license approvals;
- product seizure or detention or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

The FDA's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business.

We may attempt to secure approval from the FDA through the use of accelerated registration pathways. If unable to obtain approval under an accelerated pathway, we may be required to conduct additional preclinical studies or clinical trials which could increase the expense of obtaining, reduce the likelihood of obtaining or delay the timing of obtaining, necessary marketing approvals. Even if we receive approval for accelerated registration pathways from the FDA, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA may seek to withdraw accelerated approval.

We may seek an accelerated approval development pathway for our product candidates, including ATRC-101 and ATRC-301. Under the accelerated approval provisions of the Federal Food, Drug, and Cosmetic Act, or the FDCA, and the FDA's implementing regulations, the FDA may grant accelerated approval to a product designed to treat a serious or life-threatening condition that provides meaningful therapeutic advantage over available therapies and demonstrates an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign or other measure that is thought to predict clinical benefit but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval development pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is contingent on the sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the drug's clinical profile or risks and benefits for accelerated approval. The FDA may require that any such confirmatory study be initiated or substantially underway prior to the submission of an application for accelerated approval. If such post-approval studies fail to confirm the drug's clinical profile or risks and benefits, the FDA may withdraw its approval of the drug.

If we choose to pursue accelerated approval, we intend to seek feedback from the FDA or will otherwise evaluate our ability to seek and receive such accelerated approval. There can be no assurance that, after our evaluation of the feedback from the FDA or other factors, we will decide to pursue or submit a BLA for accelerated approval or any other form of expedited development, review or approval. Furthermore, if we submit an application for accelerated approval, there can be no assurance that such application will be accepted or that approval will be granted on a timely basis, or at all. The FDA also could require us to conduct further studies or trials prior to considering our application or granting approval of any type. We might not be able to fulfill the FDA's requirements in a timely manner, which would cause delays, or approval might not be granted because our submission is deemed incomplete by the FDA.

Even if we receive accelerated approval from the FDA, we will be subject to rigorous post-marketing requirements, including the completion of confirmatory post-market clinical trials to verify the clinical benefit of the product, and submission to the FDA of all promotional materials prior to their dissemination. The FDA could seek to withdraw accelerated approval for multiple reasons, including if we fail to conduct any required post-market study with due diligence; a post-market study does not confirm the predicted clinical benefit; other evidence shows that the product is not safe or effective under the conditions of use; or we disseminate promotional materials that are found by the FDA to be false and misleading.

A failure to obtain accelerated approval or any other form of expedited development, review or approval for a product candidate that we may choose to develop would result in a longer time period prior to commercializing such product candidate, could increase the cost of development of such product candidate and could harm our competitive position in the marketplace.

Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. Further, in the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was

enacted, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacted the U.S. pharmaceutical industry. The ACA was intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms, and substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. In June 2021, the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress. Thus, the ACA will remain in effect in its current form. In addition, in January 2021, President Biden issued an executive order that initiated a special enrollment period for obtaining health insurance coverage through the ACA marketplace, and instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare. The ACA may be subject to additional judicial or Congressional challenges in the future. It is unclear how any such challenges and the healthcare reform measures of the Biden administration will impact the ACA and our business.

Additionally, there has been heightened governmental scrutiny recently over the manner in which manufacturers set prices for their marketed products. For example, there have been several recent Congressional inquiries, Presidential executive orders, and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. At the federal level, in July 2021, the Biden administration released an executive order, "Promoting Competition in the American Economy," with multiple provisions aimed at prescription drugs. In response to Biden's executive order, on September 9, 2021, the U.S. Department of Health and Human Services, or HHS released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue to advance these principles. No legislation or administrative actions have been finalized to implement these principles. In addition, Congress is considering drug pricing as part of other reform initiatives. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures and, in some cases, designed to encourage importation from other countries and bulk purchasing. These new laws and initiatives may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on our future customers and accordingly, our financial operations. Further, it is possible that additional governmental action is taken in response to the COVID-19 pandemic.

We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

If we or potential future partners, manufacturers or service providers fail to comply with healthcare laws and regulations, we or they could be subject to enforcement actions, which could result in significant penalties and affect our ability to develop, market and sell our products and may harm our reputation.

Healthcare providers and third-party payors, among others, will play a primary role in the prescription and recommendation of any product candidates for which we obtain marketing approval. Our current and future arrangements with third-party payors, providers and customers, among others, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we conduct our research as well as market, sell and distribute our product candidates for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, a person or entity from knowingly and willfully soliciting, offering, paying, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease order, arranging for or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, by a federal healthcare program, such as Medicare or Medicaid. A person or entity does

not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, a violation of the Anti-Kickback Statute can form the basis for a violation of the federal False Claims Act (discussed below);

- federal civil and criminal false claims laws and civil monetary penalties laws, including the federal False Claims Act, which provides for civil whistleblower or qui tam actions, that impose penalties against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a referral made in violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- HIPAA, which imposes criminal and civil liability for, among other things, executing a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- HIPAA, as amended by HITECH, and its implementing regulations, including the Final Omnibus Rule published in January 2013, which impose obligations on certain covered entity healthcare providers, health plans, and healthcare clearinghouses as well as their business associates and their covered subcontractors that perform certain services involving the use or disclosure of individually identifiable health information, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information, and require notification to affected individuals and regulatory authorities of certain breaches of security of individually identifiable health information;
- the federal false statements statute, which prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services;
- the federal transparency requirements known as the federal Physician Payments Sunshine Act, created as part of ACA, which requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program to report annually to the Centers for Medicare & Medicaid Services, or CMS information related to payments and other transfers of value made by that entity to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare professionals (such as physician assistants and nurse practitioners), and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and
- analogous local, state and foreign laws and regulations, such as state anti-kickback and false claims laws that may apply to healthcare items or services reimbursed by third party payors, including private insurers; local, state and foreign transparency laws that require manufacturers to report information related to payments and transfers of value to other healthcare providers and healthcare entities, marketing expenditures, or drug pricing; state laws that require pharmaceutical companies to register certain employees engaged in marketing activities in the location and comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Ensuring that our future business arrangements with third parties comply with applicable healthcare laws and regulations could involve substantial costs. If our operations are found to be in violation of any such requirements, we may be subject to significant penalties, including criminal, administrative, and significant civil monetary penalties, damages, fines, individual imprisonment, disgorgement, contractual damages, reputational harm, exclusion from participation in government healthcare programs, integrity obligations, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, private qui tam actions brought by individual whistleblowers in the name of the government, refusal to allow us to enter into supply contracts, including government contracts, additional reporting requirements and oversight if subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, and the curtailment or

restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. Although effective compliance programs can mitigate the risk of investigation and prosecution for violations of these laws, these risks cannot be entirely eliminated. Any action against us for an alleged or suspected violation could cause us to incur significant legal expenses and could divert our management's attention from the operation of our business, even if our defense is successful. In addition, achieving and sustaining compliance with applicable laws and regulations may be costly to us in terms of money, time and resources.

If we fail to comply with U.S. and foreign regulatory requirements, regulatory authorities could limit or withdraw any marketing or commercialization approvals we may receive and subject us to other penalties that could materially harm our business.

Even if we receive marketing and commercialization approval of a product candidate, we will be subject to continuing regulatory requirements, including in relation to adverse patient experiences with the product and clinical results that are reported after a product is made commercially available, both in the United States and any foreign jurisdiction in which we seek regulatory approval. The FDA has significant post-market authority, including the authority to require labeling changes based on new safety information and to require post-market studies or clinical trials to evaluate safety risks related to the use of a product or to require withdrawal of the product from the market. The FDA also has the authority to require a Risk Evaluation and Mitigation Strategy, or a REMS, after approval, which may impose further requirements or restrictions on the distribution or use of an approved drug or therapeutic biologic. The manufacturer and manufacturing facilities we use to make a future product, if any, will also be subject to periodic review and inspection by the FDA and other regulatory agencies, including for continued compliance with cGMP requirements. The discovery of any new or previously unknown problems with our third-party manufacturers, manufacturing processes or facilities may result in restrictions on the product, manufacturer or facility, including withdrawal of the product from the market. We intend to rely on third-party manufacturers, and we will not have control over compliance with applicable rules and regulations by such manufacturers. Any product promotion and advertising will also be subject to regulatory requirements and continuing regulatory review. If we or our existing or future partners, manufacturers or service providers fail to comply with applicable continuing regulatory requirements in the U.S. or foreign jurisdictions in which we seek to market our products, we or they may be subject to, among other things, fines, warning letters, holds on clinical trials, delay of approval or refusal by the FDA to approve pending applications or supplements to approved applications, suspension or withdrawal of regulatory approval, product recalls and seizures, administrative detention of products, refusal to permit the import or export of products, operating restrictions, injunction, civil penalties and criminal prosecution.

Even if we are able to commercialize any product candidate, such product candidate may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

Our ability to commercialize any products successfully will depend, in part, on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from third-party payors, such as government authorities, private health insurers and health maintenance organizations. Patients who are prescribed medications for the treatment of their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their prescription drugs. Coverage and adequate reimbursement from government healthcare programs, such as Medicare and Medicaid, and private health insurers are critical to new product acceptance. Patients are unlikely to use our future products, if any, unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost. Similar challenges to obtaining coverage and reimbursement for our product candidates, once approved, will apply to our companion diagnostics.

Cost-containment is a priority in the U.S. healthcare industry and elsewhere. As a result, government authorities and other third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Third-party payors also may request additional clinical evidence beyond the data required to obtain marketing approval, requiring a company to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of its product. Commercial third-party payors often rely upon Medicare coverage policy and payment limitations in setting their reimbursement rates, but also have their own methods and approval process apart from

Medicare determinations. Therefore, coverage and reimbursement for pharmaceutical products in the U.S. can differ significantly from payor to payor. We cannot be sure that coverage and adequate reimbursement will be available for any product that we commercialize and, if reimbursement is available, that the level of reimbursement will be adequate. Coverage and reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If coverage and reimbursement are not available or are available only at limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval. Further, coverage policies and third-party reimbursement rates may change at any time. Therefore, even if favorable coverage and reimbursement status is attained, less favorable coverage policies and reimbursement rates may be implemented in the future.

Additionally, the regulations that govern regulatory approvals, pricing and reimbursement for new drugs and therapeutic biologics vary widely from country to country. Some countries require approval of the sale price of a drug or therapeutic biologic before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain regulatory approval.

We are subject to U.S. and foreign anti-corruption and anti-money laundering laws with respect to our operations and non-compliance with such laws can subject us to criminal or civil liability and harm our business.

We are subject to the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and possibly other state and national anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, third-party intermediaries, joint venture partners and collaborators from authorizing, promising, offering or providing, directly or indirectly, improper payments or benefits to recipients in the public or private sector. We interact with officials and employees of government agencies and government-affiliated hospitals, universities and other organizations. In addition, we may engage third-party intermediaries to promote our clinical research activities abroad or to obtain necessary permits, licenses and other regulatory approvals. We can be held liable for the corrupt or other illegal activities of these third party intermediaries, our employees, representatives, contractors, partners and agents, even if we do not explicitly authorize or have actual knowledge of such activities.

Our Code of Business Conduct and Ethics mandates compliance with the FCPA and other anti-corruption laws applicable to our business throughout the world. However, we cannot assure you that our employees and third-party intermediaries will comply with this code or such anti-corruption laws. Noncompliance with anti-corruption and anti-money laundering laws could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other enforcement actions, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, suspension or debarment from contracting with certain persons, the loss of export privileges, reputational harm, adverse media coverage and other collateral consequences. If any subpoenas, investigations or other enforcement actions are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations and financial condition could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense and compliance costs and other professional fees. In certain cases, enforcement authorities may even cause us to appoint an independent compliance monitor which can result in added costs and administrative burdens.

Comprehensive tax reform bills could adversely affect our business and financial condition.

On December 20, 2017, the U.S. Congress passed the Tax Act, enacting comprehensive tax legislation that includes significant changes to the taxation of business entities. These changes include, among others: a permanent reduction to the corporate income tax rate; a partial limitation on the deductibility of business interest expense; a shift of the U.S. taxation of multinational corporations from a tax on worldwide income to a territorial system (along with

certain rules designed to prevent erosion of the U.S. income tax base); and a one-time tax on accumulated offshore earnings held in cash and illiquid assets, with the latter taxed at a lower rate.

Notwithstanding the reduction in the corporate income tax rate, the overall impact of this tax reform remains uncertain, and our business and financial condition could be adversely affected. This Quarterly Report on Form 10-Q does not provide an in-depth discussion of any such tax legislation or the manner in which it might affect purchasers of our Class A common stock. We urge our stockholders to consult with their legal and tax advisors with respect to any such legislation and the potential tax consequences of investing in our Class A common stock.

Risks Related to Our Class A Common Stock

Our quarterly operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline.

We expect our operating results to be subject to quarterly fluctuations. Our net loss and other operating results will be affected by numerous factors, including:

- variations in the level of expense related to the ongoing development of our product candidates or future development programs;
- results of clinical trials, or the addition or termination of clinical trials or funding support by us or potential future partners;
- our execution of any collaboration, licensing or similar arrangements, and the timing of payments we may make or receive under potential future arrangements or the termination or modification of any such potential future arrangements;
- any intellectual property infringement, misappropriation or violation lawsuit or opposition, interference or cancellation proceeding in which we may become involved;
- additions and departures of key personnel;
- strategic decisions by us or our competitors, such as acquisitions, divestitures, spin-offs, joint ventures, strategic investments or changes in business strategy;
- if any of our product candidates receives regulatory approval, the terms of such approval and market acceptance and demand for such product candidates;
- regulatory developments affecting our product candidates or those of our competitors; and
- changes in general market and economic conditions.

If our quarterly operating results fall below the expectations of investors or securities analysts, the price of our Class A common stock could decline substantially. Furthermore, any quarterly fluctuations in our operating results may, in turn, cause the price of our Class A common stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

Our stock price may be volatile and purchasers of our Class A common stock could incur substantial losses.

The price of our Class A common stock is likely to be volatile. The market price for our Class A common stock has been, and may continue to be, impacted by many factors, including the other risks described in this “Risk Factors” section, including the following:

- our ability to advance ATRC-101, ATRC-301 or potential future product candidates through preclinical studies and clinical trials;
- results of preclinical studies and clinical trials of ATRC-101, ATRC-301 or potential future product candidates, or those of our competitors or potential future partners;
- regulatory or legal developments in the United States and other countries, especially changes in laws or regulations applicable to our products;
- the success of competitive products or technologies;

- introductions and announcements of new products by us, our future commercialization partners, or our competitors, and the timing of these introductions or announcements;
- actions taken by regulatory agencies with respect to our products, clinical trials, manufacturing process or sales and marketing terms;
- actual or anticipated variations in our financial results or those of companies that are perceived to be similar to us;
- the success of our efforts to acquire or in-license additional technologies, products or product candidates;
- developments concerning any future collaborations, including, but not limited to, those with our sources of manufacturing supply and our commercialization partners;
- market conditions in the pharmaceutical and biotechnology sectors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- developments or disputes concerning patents or other proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our products;
- our ability or inability to raise additional capital and the terms on which we raise it;
- the recruitment or departure of key personnel;
- changes in the structure of healthcare payment systems;
- actual or anticipated changes in earnings estimates or changes in stock market analyst recommendations regarding our Class A common stock, other comparable companies or our industry generally;
- our failure or the failure of our competitors to meet analysts' projections or guidance that we or our competitors may give to the market;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- announcement and expectation of additional financing efforts;
- speculation in the press or investment community;
- trading volume of our Class A common stock;
- sales of our Class A common stock by us or our stockholders;
- the concentrated ownership of our Class A common stock;
- changes in accounting principles;
- political, social, and economic instability abroad, including as a result of armed conflict, war or the threat of war, in particular, the current conflict in Ukraine, terrorist activity and other security concerns in general;
- natural disasters and other calamities, including global health epidemics or other contagious diseases; and
- general economic, industry and market conditions.

In addition, the stock markets in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have recently experienced, and may continue to experience, extreme volatility as a result of, among other reasons, the COVID-19 pandemic, related government and economic reactions, and other clinical and regulatory factors. Further, a significant downturn in the economy in general, or the markets for pharmaceutical, biopharmaceutical and biotechnology in particular, could negatively impact our strategic plans for our business, technologies, current or potential future product candidates, and our growth prospects. Such volatility has often been, and may in the future be, unrelated to our operating performance. These broad market and industry factors have adversely impacted, and may continue to adversely impact, the market price of our Class A common stock, regardless of our operating performance.

The dual class structure of our common stock and the option of the holder of shares of our Class B common stock to convert into shares of our Class A common stock may limit stockholders' ability to influence corporate matters.

Our Class A common stock has one vote per share, while our Class B common stock is non-voting. Nonetheless, each share of our Class B common stock may be converted at any time into one share of Class A common stock at the option of its holder, subject to the limitations provided for in our amended and restated certificate of incorporation. Consequently, if holders of Class B common stock exercise their option to make this conversion, this will have the effect of increasing the relative voting power of those prior holders of our Class B common stock, and correspondingly decrease the voting power of the current holders of our Class A common stock, which may limit stockholders' ability to influence corporate matters. Because our Class B common stock is generally non-voting,

stockholders who own more than 10% of our common stock overall but 10% or less of our Class A common stock will not be required to report changes in their ownership from transactions in our Class B common stock pursuant to Section 16(a) of the Exchange Act, and would not be subject to the short-swing profit provisions of Section 16(b) of the Exchange Act. In addition, acquisitions of Class B common stock would not be subject to notification pursuant to the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended.

If securities or industry analysts do not publish research or reports about us, or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our Class A common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us, or who commence covering us in the future, issue an adverse or misleading opinion regarding us, our business model, our intellectual property rights or our Class A common stock performance, or if our target studies and operating results fail to meet the expectations of the analysts, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Based on the beneficial ownership of our capital stock as of June 30, 2022, our executive officers and directors, together with holders of 5% or more of our capital stock and their respective affiliates, beneficially owned a significant percentage of our Class A common stock and Class B common stock. As a result, these stockholders, if acting together, will continue to have significant influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets and any other significant corporate transaction. In addition, pursuant to a nominating agreement between us and Baker Brothers Life Sciences L.P. and 667, L.P., or together, Baker Brothers, following the closing of our initial public offering and so long as Baker Brothers together with its affiliates beneficially owns at least 3,333,333 shares of our common stock, we will have the obligation to support the nomination of, and to cause our board of directors to include in the slate of nominees recommended to our stockholders for election, two individuals designated by Baker Brothers, each a Baker Designee, subject to customary conditions and exceptions, as well as the obligation to invite two board of directors observer designees of Baker Brothers to attend all meetings of our board of directors and all meetings of the committees of our board of directors as a nonvoting observer, if there is no Baker Designee on our board of directors, subject to customary conditions and exceptions. Baker Brothers and its affiliates may therefore have influence over management and control over matters requiring stockholder approval, including the annual election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets, following the closing of our initial public offering and for the foreseeable future.

The interests of these stockholders may not be the same as, and may even conflict with, your interests. For example, these stockholders could delay or prevent a change of control of our company, even if such a change of control would benefit our other stockholders, which could deprive our stockholders of an opportunity to receive a premium for their Class A common stock as part of a sale of our company or our assets and might affect the prevailing market price of our Class A common stock. The significant concentration of stock ownership may adversely affect the trading price of our Class A common stock due to investors' perception that conflicts of interest may exist or arise.

Future sales and issuances of our Class A common stock or Class B common stock or rights to purchase Class A common stock or Class B common stock, including pursuant to our 2019 Equity Incentive Plan, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital may be needed in the future to continue our planned operations, including further development of our discovery platform, preparing IND filings, conducting clinical trials, commercialization efforts, and expanded research and development activities and costs. To raise capital, we may sell Class A common stock or Class B common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell Class A common stock or Class B

common stock, convertible securities or other equity securities, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our Class A common stock.

Pursuant to our 2019 Equity Incentive Plan, or the 2019 Plan, our management is authorized to grant stock options and other stock-based awards, including RSUs, to our employees, directors and consultants. Additionally, the number of shares of our Class A common stock reserved for issuance under the 2019 Plan will automatically increase on January 1 of each year, beginning on January 1, 2020 and continuing through and including January 1, 2029, by 4% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. Unless our board of directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution, which could cause our stock price to fall.

We are an "emerging growth company" and our election of reduced reporting requirements applicable to emerging growth companies may make our Class A common stock less attractive to investors.

We are an ''emerging growth company'' as defined in the Jumpstart Our Business Startups Act, or JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, or Section 404, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years following the completion of our initial public offering, although circumstances could cause us to lose that status earlier, including if we are deemed to be a ''large accelerated filer,'' which occurs when the market value of our Class A common stock that is held by non-affiliates exceeds $700 million as of the prior June 30, or if we have total annual gross revenue of $1.07 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the following December 31, or if we issue more than $1.0 billion in non-convertible debt during any three-year period before that time, in which case we would no longer be an emerging growth company immediately. Even after we no longer qualify as an emerging growth company, we could still qualify as a ''smaller reporting company,'' which would allow us to take advantage of many of the same exemptions from disclosure requirements including not being required to comply with the auditor attestation requirements of Section 404 and reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We cannot predict if investors will find our Class A common stock less attractive because we may rely on these exemptions. If some investors find our Class A common stock less attractive as a result, there may be a less active trading market for our Class A common stock and our share price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of an exemption that allows us to delay adopting new or revised accounting standards until such time as those standards apply to private companies. As a result, we will not be subject to the same new or revised accounting standards as other public companies that comply with the public company effective dates, including but not limited to the new lease accounting standard. We may also elect to take advantage of other reduced reporting requirements in future filings. As a result of these elections, the information that we provide to our stockholders may be different than you might receive from other public reporting companies. However, if we later decide to opt out of the extended period for adopting new accounting standards, we would need to disclose such decision and it would be irrevocable.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Stock Market and other applicable securities rules and regulations impose various requirements on public companies, including

establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors. However, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an ‘‘ownership change’’ is subject to limitations on its ability to utilize its pre-change net operating loss or tax credits to offset future taxable income. Our existing net operating losses, or NOLs, or credits may be subject to substantial limitations arising from previous ownership changes, and if we undergo an ownership change our ability to utilize NOLs or credits could be further limited by Section 382 of the Code. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Section 382 of the Code. Our NOLs or credits may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs or credits. Furthermore, our ability to utilize our NOLs or credits is conditioned upon our attaining profitability and generating U.S. federal and state taxable income. As described above under ‘‘—Risks Related to Business,’’ we have incurred significant net losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future; thus, we do not know whether or when we will generate the U.S. federal or state taxable income necessary to utilize our NOLs or credits.

We may incur significant costs from class action litigation due to expected volatility of the price of our Class A common stock.

The price of our Class A common stock may fluctuate for many reasons, including as a result of public announcements regarding the progress of our development efforts for our discovery platform and our product candidates, the development efforts of future partners or competitors, the addition or departure of our key personnel, variations in our quarterly operating results and changes in market valuations of biopharmaceutical and biotechnology companies. This risk is especially relevant to us because biopharmaceutical and biotechnology companies have experienced significant stock price volatility in recent years. When the market price of a stock has been volatile as our stock price may be, holders of that stock have occasionally brought securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit of this type against us, even if the lawsuit is without merit, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws may delay or prevent an acquisition of our company or a change in our management. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. These provisions include:

- a prohibition on actions by our stockholders by written consent;
- a requirement that special meetings of stockholders, which our company is not obligated to call more than once per calendar year, be called only by the chairman of our board of directors, our chief executive

officer, or our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors;
- advance notice requirements for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings;
- division of our board of directors into three classes, serving staggered terms of three years each; and
- the authority of the board of directors to issue preferred stock with such terms as the board of directors may determine.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, as amended, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. These provisions would apply even if the proposed merger or acquisition could be considered beneficial by some stockholders.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and, to the extent enforceable, the federal district courts of the United States of America will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us or our directors, officers, or employees arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim for which the U.S. federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition, and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive-forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees. If any other court of competent jurisdiction were to find either exclusive-forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving the dispute in other jurisdictions, all of which could seriously harm our business.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) Recent Sales of Unregistered Equity Securities

None.

(b) Use of Proceeds

None.

(c) Issuer Purchases of Equity Securities

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not Applicable.

Item 5. Other Information

None.

Item 6. Exhibits

The exhibits listed on the accompanying Exhibit Index are filed or incorporated by reference (as stated therein) as part of this Quarterly Report on Form 10-Q.

		Incorporated by Reference				
Number	**Exhibit Title**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Filed Herewith**
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	8-K	001-38935	3.1	06/26/19	
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-38935	3.2	06/26/19	
4.1	Amended and Restated Investors' Rights Agreement, dated as of September 5, 2018, by and among the Registrant and certain of its stockholders.	S-1/A	333-231770	4.1	06/10/19	
4.2	Form of Warrant to Purchase Shares of Series A Preferred Stock, dated as of August 21, 2015, by and between the Registrant and Warrant holders of the Registrant.	S-1/A	333-231770	4.2	06/10/19	
4.3	Form of Class A Common Stock Certificate of the Registrant.	8-K	001-38935	4.1	06/26/19	
4.4	Form of Class B Common Stock Certificate of the Registrant.	8-K	001-38935	4.2	06/26/19	
10.1†	Option and License Agreement, dated April 4, 2022, by and between the Registrant and Zymeworks Inc.					X
31.1	Certification of Chief Executive Officer, as required by Rule 13a-14(a) or Rule 15d-14(a).					X
31.2	Certification of Chief Financial Officer, as required by Rule 13a-14(a) or Rule 15d-14(a).					X
32.1*	Certification of Principal Executive Officer and Principal Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. Section 1350).					X
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document).					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document.					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.					X

101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.	X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.	X
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).	

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* The certifications attached as Exhibit 32.1 accompany this Quarterly Report on Form 10-Q pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed "filed" by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

† Portions of this exhibit (indicated by asterisks) have been omitted because they are not material and are the type that the Registrant treats as private and confidential.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ATRECA, INC.

Date:	August 8, 2022	By:	/s/ JOHN A. ORWIN John A. Orwin President and Chief Executive Officer (Principal Executive Officer)
Date:	August 8, 2022	By:	/s/ HERBERT CROSS Herbert Cross Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 10.1

CERTAIN INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

Confidential
Execution Version

OPTION AND LICENSE AGREEMENT

Between

ZYMEWORKS INC.

and

ATRECA, INC.
April 4, 2022

TABLE OF CONTENTS

OPTION AND LICENSE AGREEMENT

This **OPTION AND LICENSE AGREEMENT** (the "**Agreement**") is effective as of April 4, 2022 (the "**Effective Date**"), by and between **Atreca, Inc.**, a Delaware corporation, having an address 835 Industrial Road, Suite 400, San Carlos, California 94070 USA ("**Atreca**") and Zymeworks Inc., a corporation organized and existing under the laws of British Columbia, having an address at 540-1385 West 8th Avenue, Vancouver, BC, Canada V6H 3V9 ("**Zymeworks**"). Zymeworks and Atreca are each referred to individually as a "**Party**" and together as the "**Parties**".

BACKGROUND

A. Zymeworks controls a proprietary conjugation, linker, and cytotoxic payload platform, which is known as ZymeLink™, for developing pharmaceutical drug-conjugate products.

B. Atreca controls proprietary antibody-based oncology therapeutics, generated via its discovery platform, and is interested in developing and commercializing certain of such proprietary antibodies as antibody-drug conjugate products.

C. Atreca desires to receive an option to obtain certain licenses under certain intellectual property controlled by Zymeworks to develop and commercialize Licensed Products (as defined below), and Zymeworks is willing to grant such rights.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein below, and other good and valuable consideration, the sufficiency of which is hereby acknowledged by both Parties, the Parties agree as follows:

ARTICLE 1
DEFINITIONS AND INTERPRETATIONS

Whenever used in this Agreement with an initial capital letter, the terms defined in this Article 1 and elsewhere in this Agreement, whether used in the singular or plural, shall have the meanings specified.

1.1 "**Accounting Standards**" means with respect to a Party, the United States Generally Accepted Accounting Principles ("**GAAP**") or International Financial Reporting Standards ("**IFRS**"), as such Party uses for its financial reporting obligations, consistently applied.

1.2 "**Acquiring Entity**" means a Third Party (a) that acquires in one transaction or a series of related transactions, direct or indirect beneficial ownership of more than fifty percent (50%) of the outstanding voting equity securities of Zymeworks (or an Affiliate of Zymeworks prior to such transaction), (b) that merges or consolidates with Zymeworks (or an Affiliate of Zymeworks prior to such transaction) such that such Third Party acquires direct or indirect beneficial ownership of more than fifty percent (50%) of the voting power of the surviving entity immediately after such merger, reorganization or consolidation; or (c) to which Zymeworks transfers all or substantially all of Zymeworks' assets to which this Agreement pertains in one transaction or a series of related transactions.

1.3 "**Affiliate**" means with respect to either Party, any Person controlling, controlled by or under common control with such Party, for so long as such control exists. For purposes of this Section 1.3 only, "control" means (i) direct or indirect ownership of fifty percent (50%) or more of the stock or shares having the right to vote for the election of directors of such corporate entity or (ii) the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of such entity, whether through the ownership of voting securities, by contract or otherwise.

1.4 "**Annual Net Sales**" means all Net Sales of the applicable Licensed Product throughout the Territory during a Calendar Year.

1.5 "**Antibody**" means an antibody that (a) is owned or otherwise controlled by Atreca or its Affiliates as of the Effective Date or during the Term of the Agreement, and (b) incorporates a Sequence.

1.6 "**Antibody Improvement**" means any Invention that is an improvement to the composition of one or more Antibodies (including, subject to Section 2.1.2(b), the Sequence contained therein) or to methods of making or using such Antibodies, which improvement does not incorporate or require the practice of the Zymeworks Platform.

1.7 "**Applicable Laws**" means all federal, state, local, national and supra-national laws, statutes, rules regulations and ordinances, including any rules, regulations, guidelines or requirements of Regulatory Authorities, national securities exchanges or securities listing organizations that may be in effect from time to time during the Term and applicable to a particular activity hereunder.

1.8 "[***]

1.9 "**Back-up Sequence**" means a Sequence that is selected by Atreca to be a Back-up Sequence in accordance with Section 3.1.3, and is determined to be available in accordance with Section 3.2. Each Back-up Sequence shall be Directed To the same Target as the Lead Sequence for which it is a back-up.

1.10 "**BLA**" means a Biologics License Application filed pursuant to the requirements of the FDA under Section 351(k) of the PHS Act and 12 C.F.R., Section 601.2, to obtain regulatory approval for a Licensed Product in the United States, or the equivalent application or filing in another country or jurisdiction (as applicable).

1.11 "**Business Day**" means any day other than a Saturday, Sunday or any other day on which commercial banks in Vancouver, Canada or San Francisco, California, U.S.A. are authorized or required by Applicable Law to remain closed.

1.12 "**Calendar Quarter**" means any respective period of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31 of any Calendar Year, except that the first Calendar Quarter will commence on the Effective Date and the last Calendar Quarter will end upon the end of the Term.

1.13 "**Calendar Year**" means each successive period of twelve (12) months commencing on January 1 and ending on December 31, except that the first Calendar Year will commence on the Effective Date and the last Calendar Year will end upon the end of the Term.

1.14 "**Candidate Selection**" means, with respect to a given Research Product, the stage at which Atreca has generated proof of concept data and results pertaining to the use of such Research Product to treat a particular Indication from (a) [***] agreed by the Parties; (b) [***] agreed by the Parties; and (c) such other additional pre-clinical or clinical studies and activities agreed by the Parties, and, based on such data and results, [***]; provided that, if Atreca initiates [***] for such Research Product, Candidate Selection shall be deemed to have occurred, regardless of whether such Research Product is part of a Collaboration Program.

1.15 "**Clinical Trial**" means a Phase I Clinical Trial, Phase II Clinical Trial or Phase III Clinical Trial, or any post-approval human clinical trial, as applicable.

1.16 "**Commercially Reasonable Efforts**" means the efforts and resources [***] with respect to a potential or actual product with similar commercial potential and at a similar stage in its research, development or commercial life as the relevant Research Product(s) or Licensed Product(s), taking into account, without limitation, with respect to such Research Product or Licensed Product(s), [***].

1.17 "**Completion of** [***]" means, with respect to a given Research Product or Licensed Product, as applicable, the stage at which Atreca has generated proof of concept data and results pertaining to the use of such Research Product or Licensed Product, as applicable, in treatment of one or more Indication(s) on the basis of data and results arising from (a) [***], and (b) such other additional pre-clinical or clinical studies and activities as agreed by the Parties to be necessary to support [***] for such Research Product or Licensed Product; provided that upon the earlier of (i) generation by or on behalf of Atreca or any of its Affiliates of [***] designed to support [***] for such Research Product or Licensed Product; and (ii) [***] for such Research Product or Licensed Product, Completion of [***] shall be deemed to have occurred.

1.18 "**Confidential Information**" means all proprietary information and Know-How that is generated by or on behalf of a Party under this Agreement or the MTA, or that one Party or any of its Affiliates or contractors has provided or otherwise made available to the other Party, whether made available orally, in writing, or in electronic form, including (a) such information or Know-How comprising or relating to concepts, discoveries, Inventions, data, designs or formulae arising from this Agreement, and (b) any unpublished patent applications disclosed hereunder. Notwithstanding anything to the contrary herein, (i) all Know-How comprising the Zymeworks Platform or Zymeworks Platform Improvements are the Confidential Information of Zymeworks; (ii) all Know-How comprising the Antibody, Antibody Improvements and Conjugate IP are the Confidential Information of Atreca; and (iii) the existence and terms of this Agreement constitute Confidential Information of both Parties.

1.19 "**Conjugate**" means an antibody conjugate comprising an Antibody conjugated to a Linker-Cytotoxin.

1.20 "**Conjugate IP**" means any and all Inventions that comprise (a) [***], of any Conjugate that [***], or (b) [***] of such Conjugate. For clarity, [***].

1.21 "**Conjugate Patent Right**" means, subject to Section 7.2.3, any Patent Right [***] to any Conjugate IP. For clarity, [***].

1.22 "**Control**" or "**Controlled**" means, with respect to any material, Know-How, or intellectual property right (including Patent Rights), that Zymeworks owns or has a license to such material, Know-How, or intellectual property right and in each case, has the power to grant to Atreca access, a license, or a sublicense (as applicable) to such material, Know-How, or intellectual property right on the terms and conditions set forth in this Agreement without violating any of Zymeworks' obligations to a Third Party, or subjecting Zymeworks to any additional fee or charge (other than any fee or charge payable pursuant to any agreement or arrangement existing as of the Effective Date). Notwithstanding anything to the contrary in this Agreement, the following shall not be deemed to be Controlled by Zymeworks: (a) any materials, Know-How or intellectual property right owned or licensed by any Acquiring Entity immediately prior to the effective date of the merger, consolidation or transfer making such Third Party an Acquiring Entity (except to the extent such Third Party had granted to or received from Zymeworks or any of its Affiliates rights to such materials, Know-How or intellectual property rights prior to the effective date of the merger, consolidation or transfer making such Third Party an Acquiring Entity), or (b) any materials, Know-How or intellectual property right that any Acquiring Entity subsequently develops without accessing or practicing the Zymeworks Platform or any Zymeworks Intellectual Property.

1.23 "**Covered**" means, with respect to a Licensed Product and Patent Rights in a particular country, that the manufacture, use, offer for sale, sale or importation of such Licensed Product in such country would, but for the licenses granted herein, infringe such Patent Rights (or, in the case of a pending patent application, would infringe if such patent application were to issue as a patent). "**Cover**" and "**Covering**" have correlative meanings.

1.24 "**Directed To**" means, (a) with regard to a Sequence, that such Sequence binds directly to a Target; and (b) with regard to an Antibody, that such Antibody binds directly to a Target and exerts diagnostic, prophylactic or therapeutic activity as a result of such binding or modifies the profile (e.g., pharmacokinetics, tissue penetration and distribution) of the Antibody as a result of such binding. When required grammatically, the defined term "**Directed To**" may be separated and shall have the same meaning set forth above; e.g., when discussing Targets To which an Antibody is Directed.

1.25 "**Europe**" means the European Union and the United Kingdom.

1.26 "**European Union**" means the European Union as it exists as of the Effective Date, together with any countries or territories that subsequently join the European Union. For clarity, any countries or territories that exit the European Union after the Effective Date shall remain part of the European Union for purposes of this Agreement. As of the Effective Date, the European Union includes the following countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia,

Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

1.27 "**Exploit**" means to research, develop, make, have made, use, offer to sell, sell, import, export, commercialize or otherwise exploit. "**Exploitation**" and "**Exploiting**" will be construed accordingly.

1.28 "**FDA**" means the United States Food and Drug Administration and any successor thereto.

1.29 "**Field**" means therapeutic, prophylactic and diagnostic uses for all human and non-human indications, including all oncology indications.

1.30 "**First Commercial Sale**" means, with respect to a Licensed Product in any country in the Territory, the first sale, transfer or disposition for value or for end use or consumption of such Licensed Product in such country after Regulatory Approval has been received in such country. [***].

1.31 "**Generic Product**" means, with respect to a Licensed Product in a particular country, any pharmaceutical or biologic product sold by a Third Party (that is not a Sublicensee of, or otherwise licensed, supplied or authorized by, Atreca or its Affiliates) that (a) obtained Regulatory Approval that (i) is based upon or relied on the Regulatory Approval for such Licensed Product in such country (or that relied on data submitted by Atreca or its Affiliates or Sublicensees in connection with the Regulatory Approval for such Licensed Product in such country) or (ii) is otherwise granted by a Regulatory Authority pursuant to an expedited or abbreviated approval process that is based upon the Regulatory Approval for such Licensed Product in such country, or (b) is biosimilar, bioequivalent or interchangeable to such Licensed Product (including a product that is the subject of an application submitted under Section 351(k) of the Public Health Service Act in the United States or under Article 10(4) of Directive 2001/83/EC in the European Union or any member state thereof, in each case citing such Licensed Product as the reference product).

1.32 "**GLP**" means all applicable good laboratory practice standards, as set forth in the then-current good laboratory practice standards promulgated or endorsed by the U.S. Food and Drug Administration, as defined in 21 C.F.R. Part 58, and the equivalent Applicable Law in the relevant country in the Territory, as applicable, each as may be amended and applicable from time to time.

1.33 "**GMP**" means all applicable good manufacturing practice standards, as set forth in the then-current good manufacturing practice standards promulgated or endorsed by the U.S. Food and Drug Administration, as defined in 21 C.F.R. Part 210, 211 and 600, and the equivalent Applicable Law in the relevant country in the Territory, as applicable, each as may be amended and applicable from time to time.

1.34 "**IND**" means an investigational new drug application filed, or to be filed, with the FDA pursuant to 21 C.F.R. Part 312 or any comparable filings outside of the U.S. required to commence human clinical trials in such country, and any and all supplements or amendments that may be filed with respect to the foregoing.

1.35 "**Indication**" means a distinct human disease or condition and all of its associated signs, symptoms, stages or progression (including precursor conditions), in each case (a) for which a separate BLA is filed or (b) that is the subject of a Clinical Trial where it is intended that the data from such Clinical Trial (if successful) will be used to support Regulatory Approval that is intended to result in distinct labeling in the indications section of the approved labeling for a product in a disease or condition that is separate and distinct from another disease or condition. For clarity, any extension or modification of the approved labeling for a product with respect to [***], shall not be deemed to be separate "Indications" for the purposes of this Agreement except to the extent that [***] for such product for [***] of a disease or condition than the [***] for which Regulatory Approval was previously obtained with respect to such disease or condition, in which case such [***] shall be deemed a separate "Indication" than the Indication for which the initial Regulatory Approval for such product was obtained.

1.36 "**Initiation**" means, with respect to a Clinical Trial, the first dosing of the first subject in such Clinical Trial. "**Initiate**" has a correlative meaning.

1.37 "**Invention**" means any Know-How, composition of matter, article of manufacture or other subject matter, whether patentable or not, that (a) is conceived or reduced to practice under and as a result of any work performed under or in connection with this Agreement, including any work performed pursuant to the Research Program or (b) constitutes Biologics or Research Results (as each such term is defined in the MTA) under the MTA. "**Invent**" or "**Invented**" has a correlative meaning.

1.38 "**Joint Invention**" means any Invention conceived or reduced to practice jointly by one or more employees of Atreca or its Affiliate or a Third Party acting under authority of Atreca or its Affiliate, on the one hand, and one or more employees of Zymeworks or its Affiliate or a Third Party acting under authority of Zymeworks or its Affiliate, on the other hand. For clarity, Joint Inventions exclude Zymeworks Platform Improvements and Antibody Improvements.

1.39 "**Joint Patent Rights**" means all Patent Rights claiming a Joint Invention.

1.40 "**Know-How**" means all technical information, know-how, data, inventions, discoveries, trade secrets, specifications, instructions, processes, formulae, methods, protocols, expertise and other technology applicable to formulations, compositions or products or to their manufacture, development, registration, use or marketing or to methods of assaying or testing them, and all biological, chemical, pharmacological, biochemical, toxicological, pharmaceutical, physical and analytical, safety, quality control, manufacturing, preclinical and clinical data relevant to any of the foregoing. For clarity, Know-How excludes Patent Rights and materials.

1.41 "**Lead Sequence**" means a Sequence that is selected by Atreca to be a Lead Sequence in accordance with Section 3.1.2 and is determined to be available in accordance with Section 3.2.

1.42 "**Licensed Product**" means any pharmaceutical product, in any dosage form, formulation, presentation or package configuration that comprises a Conjugate that (a) includes an Antibody that (i) incorporates a Lead Sequence or a Back-up Sequence, and (ii) is conjugated to the corresponding Selected Linker-Cytotoxin, and (b) arises from a Collaboration Program with

respect to which a Commercial License has become effective as provided in Section 2.1.2, whether alone or in combination with other active ingredients. [***].

1.43 "**Linker-Cytotoxin**" means Zymeworks' proprietary ZymeLink™ (a) [***] auristatin drug-linker known as [***], (b) [***] hemiasterlin drug-linker known as [***], or (c) [***]. For clarity, the [***] described in subsection (c) above shall not include any [***].

1.44 "**MTA**" means that certain Materials Transfer Agreement by and between the Parties, [***].

1.45 "**Net Sales**" means the world-wide gross amount invoiced by Atreca or its Related Parties (each, a "**Seller**") for sales or other transfers of a given Licensed Product to a Third Party, less the following deductions to the extent incurred, allowed, paid, accrued or otherwise specifically allocated to the sale of the relevant unit of such Licensed Product (if not already deducted from the amount invoiced), including estimated amounts periodically reconciled to actual charges for the applicable period:

1.45.1 [***];

1.45.2 [***];

1.45.3 [***];

1.45.4 [***];

1.45.5 [***];

1.45.6 [***]; and

1.45.7 [***].

Net Sales exclude sales or transfers [***]. All the foregoing elements of Net Sales calculations shall be determined from the books and records of a Seller maintained in accordance with Accounting Standards, or in the case of a Sublicensee of Atreca, such similar accounting principles, consistently applied.

Each of the foregoing deductions shall be deducted from the gross amount to arrive at revenue as reported by Seller, in accordance with applicable Accounting Standards on a basis consistent with a Seller's audited consolidated financial statements. [***] shall be fairly and equitably allocated to such Licensed Product and other product(s) of Atreca and its Related Parties such that such Licensed Product does not bear a disproportionate portion of such deductions. In the case of any sale or other disposal of a Licensed Product or part thereof [***], Net Sales shall be calculated as above [***] on such Licensed Product, whichever is greater. Notwithstanding anything to the contrary, sales and disposals of a Licensed Product [***] shall not be included in the calculation of Net Sales.

If a Licensed Product is sold as a component of a combination or bundled product that consists of such Licensed Product together with one or more separate molecules containing other

[***] (such [***] "**Other Products**"), whether packaged or formulated together for sale or shipment as a single unit, sold for a single price or packaged separately but sold for a single price and labeled for use as a single unit (a "**Combination**") in a country in a [***], Net Sales for the purposes of determining milestone and royalty payments hereunder, shall be [***].

If the average per unit sale price of such Licensed Product in such country in such [***] can be determined but the average per unit sale price of the Other Product(s) included in the Combination in such country in such [***] cannot be determined, Net Sales for purposes of determining milestone and royalty payments shall be [***].

If the average per unit sale price of the Other Product(s) included in the Combination in such country in such [***] can be determined but the average per unit sale price of such Licensed Product in the Combination in such country in such [***] cannot be determined, Net Sales for purposes of determining milestone and royalty payments shall be [***].

If such average per unit sale price cannot be determined for either such Licensed Product or the Other Product(s) included in the Combination in such country in such [***], then Net Sales for the purposes of determining milestone and royalty payments shall be [***].

1.46 "**Patent Rights**" means the rights and interests in and to issued patents and pending patent applications (which, for purposes of this Agreement, include certificates of invention, applications for certificates of invention and priority rights) in any country or region, including all provisional applications, substitutions, continuations, continuations-in-part, continued prosecution applications including requests for continued examination, divisional applications and renewals, and all letters patent or certificates of invention granted thereon, and all reissues, reexaminations, extensions (including pediatric exclusivity patent extensions), term restorations, renewals, substitutions, confirmations, registrations, revalidations, revisions and additions of or to any of the foregoing, in each case, in any country.

1.47 "**Person**" means any individual, corporation, company, partnership, association, joint-stock company, trust, unincorporated organization or government or political subdivision thereof.

1.48 "**Phase I Clinical Trial**" means a study in humans which provides for the first introduction into humans of a product, conducted in normal volunteers or patients to generate information on product safety, tolerability, pharmacological activity or pharmacokinetics, or otherwise consistent with the requirements of U.S. 21 C.F.R. §312.21(a) or its foreign equivalents.

1.49 "**Phase II Clinical Trial**" means a study in humans of the safety, dose ranging and efficacy of a product, which is prospectively designed to generate sufficient data (if successful) to commence a Phase III Clinical Trial or to file for accelerated approval, or otherwise consistent with the requirements of U.S. 21 C.F.R. §312.21(b) or its foreign equivalents.

1.50 "**Phase III Clinical Trial**" means a controlled study in humans of the efficacy and safety of a product, which is prospectively designed to demonstrate statistically whether such product is effective and safe for use in a particular indication in a manner sufficient to file for Regulatory Approval, or otherwise consistent with the requirements of U.S. 21 C.F.R. §312.21(c) or its foreign equivalents.

1.51 "**Registrational Trial**" means the earlier to occur of: (a) a Phase III Clinical Trial or (b) any other Clinical Trial of a Licensed Product for which the applicable Regulatory Authority has agreed in writing, whether before Initiation of such Clinical Trial (*e.g.*, pursuant to a written agreement with or written statement from the FDA or the EMA on a 'Special Protocol Assessment' or equivalent or other written minutes issued by the FDA or EMA) or after Initiation of such Clinical Trial (*e.g.*, based on an interim data analysis), is sufficient to form the primary basis for Regulatory Approval. If a Clinical Trial is determined in writing by the applicable Regulatory Authority, after review of the efficacy and safety data from a Phase II Clinical Trial for the Licensed Product, to be sufficient to form the primary basis for Regulatory Approval (i.e. Clinical Trial constitutes a Registrational Trial) without the need for a Phase III Clinical Trial(s) prior to submission, then, for purposes of the Development and Regulatory Milestone Payment, the Initiation of such Registrational Trial will be deemed to occur on the date of such written determination by the applicable Regulatory Authority.

1.52 "**Regulatory Approval**" means, with respect to a product in a country or jurisdiction, all approvals from the relevant Regulatory Authority necessary to initiate marketing and selling of such product (including a Licensed Product) in such country or jurisdiction.

1.53 "**Regulatory Authority**" means the FDA or any counterpart of the FDA outside the United States, or other national, supra-national, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity with authority over the distribution, importation, exportation, manufacture, production, use, storage, transport, clinical testing or sale of a pharmaceutical product (including a Licensed Product), which may include the authority to grant the required reimbursement and pricing approvals for such sale.

1.54 "**Regulatory Exclusivity**" means any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Authority with respect to a Licensed Product in a country or jurisdiction in the Territory, other than a Patent Right, including exclusivity for an approved BLA, new clinical data exclusivity, orphan drug exclusivity, pediatric exclusivity, or rights similar thereto in other countries or jurisdictions.

1.55 "**Regulatory Filing**" means all applications, filings, submissions, approvals (including supplements, amendments, pre- and post-approvals, pricing and reimbursement approvals), licenses, registrations, permits, notifications, and authorizations (including marketing and labeling authorizations) or waivers with respect to the testing, research, development, registration, manufacture (including formulation), use, storage, import, export, transport, promotion, marketing, distribution, offer for sale, sale or other commercialization of a product made to or received from any Regulatory Authority in a given country or jurisdiction, including INDs.

1.56 "**Related Party**" means each Party, its Affiliates, and their respective Sublicensees (which term excludes any Third Parties to the extent functioning as distributors), as applicable. In no event shall Zymeworks be a Related Party with respect to Atreca or Atreca be a Related Party with respect to Zymeworks.

1.57 "**Research Product**" means any pharmaceutical product that comprises a Conjugate discovered, identified or made in the performance of the Research Program or [***].

1.58 "**Research Program**" means, collectively, the program conducted by or on behalf of Atreca during the Research Program Term to research and develop Conjugates in order to identify and select (a) one (1) Lead Sequence and corresponding Selected Linker-Cytotoxin for each Collaboration Program, and (b) up to two (2) Back-up Sequence(s) to each Lead Sequence for each Collaboration Program, in each case, ((a) and (b)), for an aggregate of up to three (3) Collaboration Programs, as further described in Section 4.1.

1.59 "**Research Program Term**" means the period commencing on the Effective Date and, unless terminated earlier in accordance with Article 10, or extended by mutual written agreement of the Parties or in accordance with Section 3.4 or Section 14.5, expiring on the second (2nd) anniversary of the Effective Date, provided that the Research Program Term shall automatically expire with respect to a Research Product (and any other Research Products incorporating the same Sequence) on [***] for such Research Product. For clarity, if extended by Atreca in accordance with Section 3.4, the Research Program Term shall expire on the third (3rd) anniversary of the Effective Date.

1.60 "**Royalty-Bearing Conjugate Patent Right**" means any Conjugate Patent Right that (a) claims Conjugate IP that is Invented, [***] and (b) is assigned to Atreca pursuant to Section 7.1.4.

1.61 "**Selected Linker-Cytotoxin**" means, with respect to a Lead Sequence, the Linker-Cytotoxin that is selected by Atreca, in accordance with Section 3.1.2, to be the Linker-Cytotoxin to be conjugated with Antibodies incorporating such Lead Sequence or either Back-up Sequence for a Collaboration Program.

1.62 "**Sequence**" means an antibody amino acid sequence that encodes a molecule with [***], and which is intended to be Directed To [***].

1.63 "**Sublicensee**" means a Third Party to whom Atreca or its Affiliate grants a sublicense under the Commercial License to develop, manufacture or commercialize Licensed Products, excluding any Third Parties to the extent functioning as distributors.

1.64 "**Target**" means [***].

1.65 "**Territory**" means worldwide.

1.66 "**Third Party**" means any Person other than Atreca or Zymeworks or an Affiliate of Atreca or Zymeworks.

1.67 "**United States**" or "**US**" means the United States of America and its territories and possessions.

1.68 "**USD**" and "**$**" mean United States dollars.

1.69 "**Valid Patent Claim**" means, with respect to a Licensed Product, any claim of (a) an issued and unexpired patent or (b) a pending patent application, in each case [***]; provided that, in the case of (a), such claim has not been abandoned, revoked or held unenforceable, invalid or unpatentable by a court or other government body of competent jurisdiction with no further

possibility of appeal and which claim has not been disclaimed, denied or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise. A claim within a pending patent application that has been pending issuance for more than [***] from the date of filing of the earliest priority patent application to which such pending patent application is entitled shall not be a Valid Patent Claim, unless and until it issues.

1.70 "**Zymeworks Intellectual Property**" means the Zymeworks Patent Rights and the Zymeworks Know-How.

1.71 "**Zymeworks Know-How**" means all Know-How that: (a) is Controlled by Zymeworks or its Affiliates as of the Effective Date or during the Term, and (b) is necessary or reasonably useful for the use of the Zymeworks Platform for researching, developing, manufacturing, using, offering for sale, selling, importing or otherwise Exploiting a Licensed Product or, solely during the Research Program Term, researching, developing, manufacturing, using, or importing the Research Products. For clarity, the Zymeworks Know-How includes Zymeworks' interest in any such Inventions that are Invented, solely or jointly (including with Atreca, its Affiliates or Collaborators), by employees of Zymeworks or by persons contractually required to assign such Inventions to Zymeworks.

1.72 "**Zymeworks Patent Rights**" means all Patent Rights (including any Patent Rights claiming any Zymeworks Platform Improvements) that are Controlled by Zymeworks or its Affiliates as of the Effective Date or during the Term that:

1.72.1 claim any method in the Zymeworks Platform that is useful for the [***] of (a) any Research Product solely during the Research Program Term, or (b) any Licensed Product;

1.72.2 claim any Linker-Cytotoxin or any component thereof (including the composition of matter or method of making or using such Linker-Cytotoxin or component thereof) contained in (a) any Research Product solely during the Research Program Term, or (b) any Licensed Product; or

1.72.3 are otherwise necessary or reasonably useful for the research, development, manufacture, use, offer for sale, sale, importation or other Exploitation of [***] (i) any Research Product solely during the Research Program Term, or (ii) any Licensed Product;

in each case (Section 1.72.2–1.72.3), either alone or as part of a Licensed Product (and, solely during the Research Program Term, the Research Products); or

1.72.4 [***].

For clarity, the Zymeworks Patent Rights include (a) the Patent Rights listed in Exhibit 1.72 and any patent or patent application claiming priority to such Patent Rights, and (b) Zymeworks' interest in any such Joint Patent Rights and Conjugate Patent Rights Controlled by Zymeworks. Notwithstanding the foregoing (including Section 1.72.4), Zymeworks Patent Rights shall not include any patents or patent applications that claim [***], other than any such patents or patent applications that claim or cover [***].

1.73 "**Zymeworks Platform**" means (a) the Linker-Cytotoxins and (b) any methods for conjugating a Linker-Cytotoxin to a peptide, protein or antibody that are claimed in (i) the Zymeworks Patent Rights listed in Exhibit 1.72, as may be amended from time to time by Zymeworks, or (ii) any patent or patent application claiming priority to such Zymeworks Patent Rights.

1.74 "**Zymeworks Platform Improvements**" means any Invention that is an improvement or modification to, or derivative of, (a) the Linker-Cytotoxins, which does not incorporate an Antibody, or (b) methods of conjugating Linker-Cytotoxins to antibodies that are claimed or disclosed in the Zymeworks Patent Rights listed in Exhibit 1.72 (or any patent or patent application claiming priority to such Zymeworks Patent Rights).

1.75 Additional Definitions. In addition, each of the following definitions shall have the respective meanings set forth in the section of this Agreement indicated below.

Definition	Section
Accounting Firm	6.4.2(a)
Agreement Payments	6.3.1
Anti-Corruption Laws	12.6.1
Applicable Infringement	7.3.1
Atreca Indemnified Party	13.1
Atreca Option	2.1.2(a)
Atreca Prosecuted Patent Rights	7.2.3
Audited Party	6.4.2(a)
Auditing Party	6.4.2(a)
CDA	14.13
CMO	4.4.3
Code	11.4
Collaboration Program	3.1.2
Collaborator	2.1.1
Combination	1.45
Commercial License	2.1.2(b)
Commercial License Effective Date	2.1.2(b)(i)
Commercialization Milestone Event	5.1.3(b)
Commercialization Milestone Payment	5.1.3(b)
Controlling Party	7.3.4
Development and Regulatory Milestone Event	5.1.3(a)

Definition	Section
Development and Regulatory Milestone Payment	5.1.3(a)
Dispute	14.4.1
Excluded Claim	14.4.5
Force Majeure Event	14.5
Gatekeeper	3.2.1
Indemnified Party	13.3.1
Indemnifying Party	13.3.1
Indirect Taxes	6.3.2
Infringing Product	7.3.1
ISC	4.1.3
Licensed Product Royalty	5.1.4(a)
Losses	13.1
Nomination Notice	3.1.4
Notice of Dispute	14.4.1
Option Exercise Fee	5.1.2
Pool	3.1.1
Relevant Conjugate Infringement	7.3.3(b)
Replacement Linker-Cytotoxin	3.3
Replacement Period	3.3
Replacement Sequence	3.3
Research License	2.1.1
Royalty Floor	5.1.4(f)
Royalty Term	5.1.4(b)
Rules	14.4.1
SEC	9.2.2

Definition	Section
Supply Agreement	4.4.3
Taxes	6.3.1
Term	10.1.1
Terminated Product(s)	11.1.5
Third Party Claims	13.1

Definition	Section
Withholding Tax Action	6.3.1
Zymeworks Indemnified Party	13.2
Zymeworks Prosecuted Patent Rights	7.2.2

1.76 Interpretation. The captions and headings to this Agreement are for convenience only and are to be of no force or effect in construing or interpreting any of the provisions of this Agreement. Unless specified to the contrary, references to Articles, Sections or Exhibits mean the particular Articles, Sections or Exhibits to this Agreement and references to this Agreement include all Exhibits hereto. In the event of any conflict between the main body of this Agreement and any Exhibit hereto, the main body of this Agreement shall prevail. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words "include" or "including" shall be construed as incorporating, also, "but not limited to" or "without limitation;" (b) the word "day" or "year" means a calendar day or calendar year unless otherwise specified; (c) the word "notice" shall mean notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement; (d) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement as a whole and not merely to the particular provision in which such words appear; (e) the words "shall" and "will" have interchangeable meanings for purposes of this Agreement; (f) the word "or" shall have the inclusive meaning commonly associated with "and/or"; (g) "antibody" shall refer to antibodies, antibody analogues or antigen-binding fragments thereof, including Fc or Fab fragments, single chain antibodies, domain antibodies, and bispecific or multi-specific antibodies; (h) provisions that require that a Party, the Parties or a committee hereunder "agree," "consent" or "approve" or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise; (i) words of any gender include the other gender; (j) words using the singular or plural number also include the plural or singular number, respectively; (k) references to any specific law, rule or regulation, or article, section or other division thereof, shall be deemed to include the then-current amendments thereto or any replacement law, rule or regulation thereof; and (l) neither Party or its Affiliates shall be deemed to be acting "under authority of" the other Party.

ARTICLE 2
GRANT OF LICENSES AND OPTIONS

2.1 Licenses and Rights to Atreca.

2.1.1 Research License. Subject to the terms and conditions of this Agreement, Zymeworks hereby grants to Atreca a non-exclusive, non-transferable (except in accordance with Section 14.1), sublicensable (solely to the extent set forth in this Section 2.1.1), worldwide, royalty-free, research and development license under the Zymeworks Intellectual Property (including, for clarity, any Know-How generated under the MTA that would constitute Zymeworks Intellectual Property), solely to perform preclinical research and development of Research Products under the Research Program during the Research Program Term (the

"**Research License**"). The Research License shall include the right to grant sublicenses to (a) Atreca's Affiliates, (b) contract research organizations and fee-for-service providers to the extent necessary or reasonably useful to have activities performed under the Research Program on Atreca's behalf or (c) bona fide existing or future Third Party commercial or non-commercial collaborators or partners of Atreca (each, a "**Collaborator**") [***], provided that Atreca retains [***]. Notwithstanding the foregoing, Atreca shall (i) notify Zymeworks promptly after any Third Party is so authorized, which notice shall identify [***], and (ii) be and remain responsible to Zymeworks for the compliance of each such Affiliate and sublicensee with the applicable terms and conditions hereunder. For clarity, the Research License does not include the right to conduct clinical research (including any Clinical Trials) with respect to any Research Products or to sell or otherwise commercialize Research Products or other products incorporating the Zymeworks Platform. Upon the expiration or termination of the Research Program Term, the Research License shall terminate and Atreca and its Affiliates and sublicensees shall cease all use of the Zymeworks Intellectual Property, Zymeworks Platform, Research Products and Conjugates (and any other antibodies conjugated with the Zymeworks Platform) except as permitted under any Commercial License having a Commercial License Effective Date on or before such expiration or termination and still in effect. For clarity, the Research License does not include the right [***] in any country with respect to any Research Product.

2.1.2 Commercial License.

(a) Subject to the terms and conditions of this Agreement, Zymeworks hereby grants to Atreca, on a Collaboration Program-by-Collaboration Program basis, an exclusive option ("**Atreca Option**") to obtain an exclusive (even as to Zymeworks and its Affiliates, but subject to Zymeworks' exclusive right to manufacture Selected Linker-Cytotoxins in accordance with Section 4.4.3), transferable (solely in accordance with Section 14.1), sublicensable (solely in accordance with Section 2.1.4) license under the Zymeworks Intellectual Property to research, develop, make, have made, use, offer to sell, sell, import and otherwise Exploit pharmaceutical products that comprise any Conjugate that includes an Antibody that (i) incorporates a Lead Sequence or a Back-up Sequence, and (ii) is conjugated to the corresponding Selected Linker-Cytotoxin, in the Field and in the Territory. The Atreca Option shall be effective solely during the Research Program Term and may be exercised, during such period, with respect to up to three (3) Collaboration Programs (including the Back-up Sequences therefor) in accordance with Section 2.1.2(b).

(b) Subject to the terms and conditions of this Agreement and effective, on a Collaboration Program-by-Collaboration Program basis, upon the date Atreca exercises the Atreca Option with respect to such Collaboration Program in accordance with Section 2.1.2(b)(i), Zymeworks hereby grants to Atreca an exclusive (even as to Zymeworks and its Affiliates, but subject to Zymeworks' exclusive right to manufacture Selected Linker-Cytotoxins in accordance with Section 4.4.3), transferable (solely in accordance with Section 14.1), sublicensable (solely in accordance with Section 2.1.4) license under the Zymeworks Intellectual Property to research, develop, make, have made, use, offer to sell, sell, import and otherwise Exploit Licensed Products in the Field in the Territory (such license, the "**Commercial License**"). For clarity, the rights granted to Atreca by Zymeworks under each Commercial License shall include the rights for Atreca to (I) Exploit Licensed Products that comprise any Conjugate that includes an Antibody that (x) incorporates a Lead Sequence or a Back-up Sequence from the applicable Collaboration

Program, and (y) is conjugated to the corresponding Selected Linker-Cytotoxin, (II) [***], but shall exclude any right for Atreca to [***], and (III) [***], if applicable after the Commercial License Effective Date as provided in Section 3.3. The Commercial License shall become effective, on a Collaboration Program-by-Collaboration Program basis, with respect to up to three (3) Collaboration Programs, on the Commercial License Effective Date for each such Collaboration Programs as follows:

(i) Following the designation of the Lead Sequence and the Selected Linker-Cytotoxin pursuant to Section 3.1.2 with respect to a Collaboration Program, Atreca shall have the right, at any time on or before the last day of the Research Program Term, to exercise the Atreca Option with respect to such Collaboration Program by providing written notice of such exercise to Zymeworks, and the Commercial License shall become effective automatically with respect to such Collaboration Program as of the date of such notice (such date, for each such Collaboration Program, the "**Commercial License Effective Date**"), subject to payment of the applicable Option Exercise Fee in accordance with Section 5.1.2. Upon expiration of the Research Program Term, Atreca shall have no further right to exercise the Atreca Option with respect to any Collaboration Program. If the Research Program Term expires at the second (2nd) anniversary of the Effective Date, and Atreca has not elected to extend the Research Program Term in accordance with Section 3.4, then, any Sequences that Atreca has nominated to be a Lead Sequence pursuant to Section 3.1.2 or a Back-up Sequence pursuant to Section 3.1.3, but for which it has not exercised the Atreca Option, shall immediately cease to be a Lead Sequence or Back-up Sequence, as applicable, and Atreca shall have no further rights hereunder with respect to such Sequences and shall cease all use of Conjugates that include an Antibody that incorporates such Sequence(s).

(ii) To the extent Atreca selects a Lead Sequence or Back-up Sequence during the Research Program Term, Zymeworks shall not [***] in each case ((A) or (B)) that would conflict or be inconsistent with the Atreca Option, or with Zymeworks' ability to grant any Commercial License to Atreca.

2.1.3 Right of Reference. Subject to the terms and conditions of this Agreement, on a Collaboration Program-by-Collaboration Program basis, commencing on the applicable Commercial License Effective Date for such Collaboration Program, Zymeworks hereby grants to Atreca a right of reference (as defined in 21 C.F.R. §314.3(b) or foreign equivalents thereto), with the right to grant multiple tiers of further rights of reference solely to Atreca's Affiliates or Sublicensees, in and to all Regulatory Filings (including any Regulatory Approvals) Controlled by Zymeworks or any of its Affiliates that [***] to the extent necessary to prepare, obtain or maintain any Regulatory Approval of Licensed Products arising from such Collaboration Program in accordance with this Agreement for the sole purpose of preparing, obtaining and maintaining Regulatory Approval of such Licensed Products in the Field and in the Territory.

2.1.4 Sublicenses. The Commercial License includes the right to grant sublicenses (including to Affiliates and Third Parties) through multiple tiers, provided that each sublicense granted by Atreca shall be consistent with the terms and conditions of this Agreement. Atreca shall (a) for all such sublicenses to Third Parties (other than to an entity acting on behalf of Atreca as a contract research or manufacturing organization) provide Zymeworks with prompt notice of any such sublicenses that it grants, [***]; and (b) be and remain responsible to

Zymeworks for the compliance of each sublicensee with the applicable terms and conditions of this Agreement.

2.2 No Implied Licenses. Except as expressly set forth in this Agreement, neither Party, by virtue of this Agreement, shall acquire any license or other interest, by implication or otherwise, in any materials, Know-How, Patent Rights or other intellectual property rights owned or controlled by the other Party or its Affiliates. Subject to the licenses and rights explicitly granted to Atreca hereunder and the other terms and conditions of this Agreement, as between the Parties, Zymeworks retains all rights under the Zymeworks Intellectual Property.

ARTICLE 3
SEQUENCE AND LINKER-CYTOTOXIN SELECTION AND GATEKEEPING

3.1 Sequence and Linker-Cytotoxin Selection.

3.1.1 Confirmation of Sequence Availability. During the Research Program Term, Atreca may, by providing a Nomination Notice pursuant to Section 3.1.4, confirm the availability of [***] Sequences that Atreca wishes to be the subject of research activities to discover and evaluate Research Products incorporating such Sequences ([***]), and that may be suitable for designation as Lead Sequences and Back-up Sequences, pursuant to the gatekeeping procedures set forth in Section 3.2. Atreca shall have the right to [***]. Atreca shall be permitted to place [***] for purposes of this Section 3.1.1; provided that, [***] that are subject to confirmation of availability pursuant to this Section 3.1.1, at any given time, shall not exceed [***] Sequences.

3.1.2 Lead Sequence and Selected Linker-Cytotoxin Nomination. With respect to Conjugates Atreca is evaluating under the Research Program, at any time during the Research Program Term but no later than [***] for a given Conjugate, and subject to gatekeeping pursuant to Section 3.2, Atreca shall, by providing a Nomination Notice pursuant to Section 3.1.4, nominate a Sequence to be the Lead Sequence and a corresponding Selected Linker-Cytotoxin for such Lead Sequence. Upon the delivery of such Nomination Notice and confirmation of availability of such Sequence, Atreca's program of research and development directed to such Conjugate will be deemed a "**Collaboration Program**" hereunder. Each proposed Sequence shall be subject to gatekeeping pursuant to Section 3.2, and, if such proposed Sequence is available pursuant to Section 3.2, such proposed Sequence shall be designated the Lead Sequence and the corresponding Linker-Cytotoxin shall be designated a Selected Linker-Cytotoxin; provided that, for clarity, such Lead Sequence and Linker-Cytotoxin shall be subject to the Research License only (and only for the duration of the Research Program Term) and not the Commercial License, unless and until Atreca exercises the Atreca Option with respect thereto. Accordingly, any Conjugate that includes an Antibody that (i) incorporates such a Lead Sequence and (ii) is conjugated to such a Selected Linker-Cytotoxin would be a Research Product and not a Licensed Product, unless and until the Atreca Option is exercised with respect to such Collaboration Program in accordance with Section 2.1.2(b)(i). If such proposed Sequence is not available pursuant to Section 3.2, Atreca may repeat the procedure set forth in this Section 3.1.2 during the Research Program Term until one (1) Sequence is designated the Lead Sequence and the corresponding Linker-Cytotoxin is designated the Selected Linker-Cytotoxin for each

Collaboration Program, for a total of three (3) Collaboration Programs. For clarity, upon such designation, the [***].

3.1.3 Back-up Sequence Nomination. With respect to Conjugates Atreca is evaluating under the Research Program, at any time during the Research Program Term, and subject to gatekeeping pursuant to Section 3.2, on a Collaboration Program-by-Collaboration Program basis, Atreca may, by providing a Nomination Notice pursuant to Section 3.1.4, nominate up to two (2) Sequences to be the Back-up Sequences for such Lead Sequence for such Collaboration Program concurrently with, or after the nomination of the Lead Sequence; provided that, if Atreca anticipates that it will [***], then Atreca shall notify Zymeworks in writing concurrently with or prior to the nomination of the Lead Sequence, and [***], Atreca may [***] for such Collaboration Program; provided further that, for clarity, [***] for such Collaboration Program. Each proposed Sequence shall be subject to gatekeeping pursuant to Section 3.2, and if such proposed Sequence is available pursuant to Section 3.2, such proposed Sequence shall (a) be designated a Back-up Sequence for use with the corresponding Selected Linker-Cytotoxin that is the Selected Linker-Cytotoxin for such Collaboration Program and (b) be included in such Collaboration Program. If any such proposed Sequence is not available pursuant to Section 3.2, Atreca may repeat the procedure set forth in this Section 3.1.3 during the Research Program Term until up to two (2) Sequence(s) are designated Back-up Sequences for each Collaboration Program (without any restriction on frequency of use of the Gatekeeper for this purpose). For clarity, upon such designation, [***]. Atreca may not [***], in accordance with this Section 3.1.3.

3.1.4 Nomination Notice. To check the availability of any Sequence(s) pursuant to Section 3.1.1 or to nominate a Sequence as a Lead Sequence (with a corresponding Selected Linker-Cytotoxin) in accordance with Section 3.1.2 or a Back-up Sequence in accordance with Section 3.1.3, Atreca shall provide the Gatekeeper with written notice of such Sequence(s) expressly referencing this Agreement (each, a "**Nomination Notice**"). The Nomination Notice for a proposed Sequence shall set forth [***] of such Sequence(s) (together, with respect to any Sequence being nominated as a Lead Sequence, the corresponding proposed Selected Linker-Cytotoxin) and a request that such Sequence(s) be submitted to gatekeeping pursuant to Section 3.2. For clarity, the Nomination Notice may be provided by Atreca to the Gatekeeper by e-mail.

3.2 Gatekeeping.

3.2.1 Zymeworks will designate [***] to be the gatekeeper for Sequence selection in accordance with this Section 3.2 (the "**Gatekeeper**"). [***]. Atreca may designate any Sequence as (i) a Lead Sequence, or (ii) a Back-up Sequence, provided that, as of the date the Gatekeeper receives the Nomination Notice from Atreca, such Sequence is available (as set forth below). For clarity, a maximum of three (3) Lead Sequences and six (6) Back-up Sequences, total, may be subject to the Commercial License. A designated Sequence is available if, with respect to such Sequence as of the date the Gatekeeper receives the Nomination Notice:

(a) Zymeworks is not contractually obligated to grant, or has not granted, to a Third Party rights with respect to products incorporating such Sequence and any Linker-Cytotoxin;

(b) Zymeworks is not actively and in good faith engaged in negotiations with a Third Party regarding the development or commercialization of products incorporating such Sequence and any Linker-Cytotoxin ([***]);

(c) Zymeworks is not actively performing an internal program in accordance with [***]; or

(d) [***].

3.2.2 Within [***] Business Days after receipt of a Nomination Notice, the Gatekeeper shall provide Atreca with written notice as to whether such Sequence is available, and, subject to Zymeworks' confidentiality obligations to Third Parties, if such Sequence is unavailable for any of the reasons set forth in Section 3.2.1(a), (b), (c) or (d).

3.3 Replacement of Lead Sequence [***] and Selected Linker-Cytotoxin. On a Collaboration Program-by-Collaboration Program basis, within [***] pursuant to Section 3.1.2 (such [***] period, the "**Replacement Period**"), Atreca shall have [***] to designate (a) [***] and [***] (each, a "**Replacement Sequence**"), and/or (b) [***] ("**Replacement Linker-Cytotoxin**"), for such Collaboration Program, subject to gatekeeping pursuant to Section 3.2. For the avoidance of doubt, if [***], and not [***]. For further clarity, if designation of the Lead Sequence with respect to a Collaboration Program occurs [***] and if the Commercial License with respect to such Collaboration Program becomes effective in accordance with Section 2.1.2, then Atreca's right under this Section 3.3 [***]; provided that, if [***].

3.4 Extension of the Research Program Term. Atreca shall have the right to extend the Research Program Term to expire on the third (3rd) anniversary of the Effective Date by providing written notice to Zymeworks of its election to extend the Research Program Term on or before the second (2nd) anniversary of the Effective Date, subject to payment of USD [***] within [***] after the date of such extension notice.

ARTICLE 4
RESEARCH PROGRAM AND DEVELOPMENT AND COMMERCIALIZATION OF LICENSED PRODUCTS

4.1 Research Program.

4.1.1 General. During the Research Program Term, Atreca shall have the right to conduct the Research Program, which will cover research activities using the Zymeworks Platform in connection with Antibodies selected by Atreca. For clarity, the Lead Sequence and Selected Linker-Cytotoxin for each Collaboration Program shall be selected as a pair, and the Back-up Sequences for such Lead Sequence will be selected for use with the same Selected Linker-Cytotoxin for such Collaboration Program. The Linker-Cytotoxin so selected for pairing with a Sequence selected for a Collaboration Program may be referred to herein as the "corresponding Linker-Cytotoxin" for each Sequence in such Collaboration Program. If Atreca does not select any Sequences in accordance with Section 3.1.2 that are determined to be available as Lead Sequences in accordance with Section 3.2, together with the corresponding Selected Linker-Cytotoxins, prior to expiration of the Research Program Term (which may be extended by mutual written agreement), this Agreement shall expire in accordance with Section 10.1.

4.1.2 Conduct of Research Program. Atreca:

(a) shall use Commercially Reasonable Efforts to develop Research Products pursuant to the Research Program; provided that, as set forth in Section 2.1.1, Atreca shall not conduct clinical development of any Research Product that is not a Licensed Product;

(b) shall conduct the Research Program in compliance with all Applicable Laws; and

(c) may utilize the services of its Affiliates and Third Parties to perform the Research Program; provided that Atreca shall remain responsible for the performance of such Affiliates and Third Parties hereunder.

4.1.3 Information Sharing Committee. Within [***] after the Effective Date, the Parties shall form an Information Sharing Committee ("**ISC**") (a) to facilitate discussions between the Parties, (b) to discuss any material delays to achievement of any milestone events or Zymeworks' questions or comments regarding the development activities reports provided by Atreca in accordance with Section 4.4.2, (c) to allow for disclosure of Inventions as set forth in Section 7.1.4, (d) to facilitate the disclosure of Linker-Cytotoxins by Zymeworks as set forth in Section 4.3.1; and (e) to provide general technical trouble-shooting support related to [***]. During the Research Program Term, and contingent on Atreca's continued active research and development of Research Products and Licensed Products, the ISC will meet, as needed, [***], or on a schedule to be agreed to by the ISC, via telephone, videoconference, or in person. Each Party shall bear its own costs incurred in connection with such meetings (e.g., travel expenses), if any. For clarity, the ISC has no decision-making power and will disband on the expiration of the Research Program Term.

4.2 Records and Reports.

4.2.1 Records. Atreca shall maintain records, for so long as necessary to comply with Applicable Laws or reasonably necessary to support the prosecution, maintenance and enforcement of intellectual property rights (including Patent Rights) in accordance with Article 7 below, regarding its conduct of the Research Program and development of the Research Products, in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes, which shall fully and properly reflect the work done and results achieved by or on behalf of Atreca in the performance of the Research Program and development of Research Products.

4.2.2 Reports. Without limiting the foregoing, Atreca shall provide Zymeworks, on a [***] basis during the Research Program Term, with written reports summarizing the progress of the Research Program and development of Research Products, respectively, in reasonable detail.

4.3 Technology Transfer and Support.

4.3.1 Technology Transfer. [***] after the Effective Date, Zymeworks shall disclose to Atreca or its designee the chemical structure of each Linker-Cytotoxin that Atreca is considering for possible selection as a Selected Linker-Cytotoxin and shall provide Zymeworks Know-How that is reasonably requested by Atreca with respect to such Linker-Cytotoxin. During the Research Program Term, Zymeworks shall disclose to Atreca or its designee [***] to any

Selected Linker-Cytotoxin and shall provide Zymeworks Know-How in connection therewith, and any Zymeworks Know-How that comes into Zymeworks' Control as reasonably requested by Atreca in writing and to the extent not previously disclosed to Atreca. For clarity, all such structures and Zymeworks Know-How shall be Zymeworks' Confidential Information.

4.3.2 Support. During the Term, Zymeworks (itself or through its Affiliates) shall [***] to provide to Atreca or its Affiliate or designee reasonable technological support and assistance, as reasonably requested by Atreca, related to the application of Zymeworks Know-How and the Zymeworks Platform to the Research Products or Licensed Products (as applicable), including by [***]. Notwithstanding the foregoing, Zymeworks is not required to provide such support for any Zymeworks Know-How that is [***]. Zymeworks shall provide Atreca with [***] at the rates set forth on Exhibit 4.3.2.

4.4 Development and Commercialization by Atreca.

4.4.1 Rights and Diligence. Subject to Section 4.4.3, Atreca (itself or through its Affiliates or Third Parties) shall have the sole responsibility and exclusive right to further develop, manufacture, commercialize and Exploit Licensed Products, and Atreca shall use Commercially Reasonable Efforts to develop and commercialize at least one (1) Licensed Product arising from each Collaboration Program that is subject to a Commercial License.

4.4.2 Development. With respect to Licensed Products hereunder, for so long as Atreca is conducting development activities, and until [***] with respect to each Collaboration Program, Atreca shall keep Zymeworks reasonably informed as to such activities for each Licensed Product by providing to Zymeworks [***] a written report describing in reasonable detail such activities conducted [***].

4.4.3 Manufacture. Zymeworks will, as between the Parties, have the sole right and obligation to manufacture the Linker-Cytotoxins for use in Research Products and Licensed Products and will supply to Atreca the Selected Linker-Cytotoxin for each Collaboration Program for purposes of Atreca exercising its rights and fulfilling its obligations hereunder, which may include [***]. Accordingly, within [***], the Parties will enter into a supply agreement and a quality agreement [***] (the "**Supply Agreement**"), [***]. The Supply Agreement shall contain provisions for Atreca to [***] to Zymeworks, and other customary terms, including provisions governing [***].

ARTICLE 5
FINANCIAL PROVISIONS

5.1 Atreca Payments to Zymeworks.

5.1.1 Technology Access Fee. In partial consideration of Zymeworks' granting Atreca rights or access to the Zymeworks Platform as set forth herein, Atreca shall pay to Zymeworks a non-refundable, non-creditable technology access fee of:

(a) [***] within [***] following the Effective Date; and

(b) [***] within [***] following [***] of the Effective Date.

5.1.2 Atreca Option Exercise Fee. On a Collaboration Program-by-Collaboration Program basis, within [***] following the Commercial License Effective Date with respect to such Collaboration Program, Atreca shall pay Zymeworks a non-refundable, non-creditable option exercise payment (the "**Option Exercise Fee**") based on [***] from such Collaboration Program (as set forth below) as of the Commercial License Effective Date:

(a) [***], the Option Exercise Fee shall be USD [***]; and

(b) [***], the Option Exercise Fee shall be USD [***].

For clarity, the Option Exercise Fee shall be payable up to an aggregate of three (3) times, once for each Collaboration Program with respect to which Atreca exercises the Atreca Option to obtain a Commercial License.

5.1.3 Milestones.

(a) Development and Regulatory Milestones. On a Collaboration Program-by-Collaboration Program basis with respect to each Collaboration Program that is the subject of a Commercial License, within [***] after the [***] of each milestone event set forth in the table below for each applicable Licensed Product (each, a "**Development and Regulatory Milestone Event**") by or on behalf of Atreca, its Affiliate or Sublicensee, Atreca shall notify Zymeworks thereof in writing and make the corresponding milestone payment to Zymeworks (each, a "**Development and Regulatory Milestone Payment**") in accordance with Section 6.1.2. Each Development and Regulatory Milestone Payment shall be payable [***] upon the [***] of the corresponding Development and Regulatory Milestone Event for such Licensed Product.

	Development and Regulatory Milestone Events	Development and Regulatory Milestone Payments
1.	[***]	USD [***]
2.	[***]	USD [***]
3.	[***]	USD [***]
4.	[***]	USD [***]
5.	[***]	USD [***]
6.	[***]	USD [***]
7.	[***]	USD [***]
8.	[***]	USD [***]
9.	[***]	USD [***]

	Development and Regulatory Milestone Events	Development and Regulatory Milestone Payments
10.	[***]	USD [***]

For clarity, [***]

(b) Commercial Milestones. On a Collaboration Program-by-Collaboration Program basis with respect to each Collaboration Program that is the subject of a Commercial License, upon the [***] of each milestone event set forth in the table below (each, a "**Commercialization Milestone Event**"), Atreca shall notify Zymeworks thereof and make the corresponding milestone payment to Zymeworks (each, a "**Commercialization Milestone Payment**") in accordance with Section 6.1.2. Each Commercialization Milestone Payment shall be payable [***] that is the subject of a Commercial License upon the [***] of the corresponding Commercialization Milestone Event for Licensed Products [***].

	Commercialization Milestone Events	Commercialization Milestone Payments
1.	[***]	USD [***]
2.	[***]	USD [***]
3.	[***]	USD [***]

For clarity, in no event shall Atreca be obligated to pay more than USD $[***] that is the subject of a Commercial License pursuant to this Section 5.1.3(b). If more than one Commercialization Milestone Event is achieved in a given Calendar Year, Atreca shall pay Zymeworks the Commercialization Milestone Payment associated with each such Commercialization Milestone Event achieved during such Calendar Year. For example, if Annual Net Sales for [***] by or on behalf of Atreca, its Affiliates or Sublicensees in the first Calendar Year after First Commercial Sale of such Licensed Product equal USD $[***], Atreca shall pay Zymeworks a total of USD $[***] in Commercialization Milestone Payments pursuant to this Section 5.1.3(b) with respect to such Calendar Year and will not have any further milestone payment obligations pursuant to this Section 5.1.3(b) unless the Annual Net Sales for [***] by or on behalf of Atreca, its Affiliates or Sublicensees in a subsequent Calendar Year exceed USD $[***], in which case Atreca would be obligated to make the final Commercialization Milestone payment of USD $[***] with respect to such Collaboration Program.

5.1.4 Royalties On Licensed Product.

(a) Royalty Payments. During the Royalty Term, Atreca shall pay Zymeworks a royalty on Net Sales of a Licensed Product [***] (each such royalty payment, a "**Licensed Product Royalty**") at the rates set forth below for the corresponding portion of Annual Net Sales by Atreca and its Related Parties in the Territory:

Royalty Tier	Annual Net Sales	Royalty Rate
A	[***]	[***]%
B	[***]	[***]%
C	[***]	[***]%

For example, if Atreca has [***] in Annual Net Sales for [***] Licensed Product in a given Calendar Year, the total Licensed Product Royalties owed to Zymeworks for such Calendar Year would be USD [***].

(b) Royalty Term. The Licensed Product Royalty will be payable on a Licensed Product-by-Licensed Product and country-by-country basis starting on the First Commercial Sale of such Licensed Product in such country and ending on the latest of: (i) [***] from First Commercial Sale of such Licensed Product in such country, (ii) such Licensed Product is no longer Covered by a Valid Patent Claim in such country, or (iii) the last to expire Regulatory Exclusivity period for such Licensed Product in such country (such period, the "**Royalty Term**"). Notwithstanding the foregoing, on a Licensed Product-by-Licensed Product and country-by-country basis, in the event (A) [***] and (B) [***], then in such case, the Royalty Term for such Licensed Product in such country shall be deemed expired upon [***].

(c) Royalty Step Down. Subject to the Royalty Floor, the royalty rates set forth in Section 5.1.4(a) will be reduced, on a Licensed Product-by-Licensed Product and country-by-country basis, by [***] in [***] in such country after expiration of the last to expire Valid Patent Claim Covering such Licensed Product in such country. The Parties acknowledge and agree that the rights and access to the Zymeworks Know-How and the Zymeworks Platform is material and valuable consideration being provided by Zymeworks, in addition to the license and rights being provided with respect to the Zymeworks Patent Rights.

(d) Generic Competition. Subject to the Royalty Floor, if one or more Generic Products are sold in a country in any [***] during the Royalty Term for such country, and the unit volume sales of such Generic Products is equal or greater than [***] of the aggregate unit volume sales of the Generic Products and Licensed Products in such [***] in such country, then the Licensed Product Royalty in such country shall be reduced by [***] for such [***]. Unit volume sales will be identified and calculated based on relevant information published by [***], or any other similar Third Party source reasonably agreed upon by the Parties.

(e) Third Party Payments. Subject to the Royalty Floor, Atreca may deduct from the Licensed Product Royalty an amount equal to [***] paid by Atreca to a Third Party with respect to sales of a Licensed Product or otherwise in consideration for the grant of a right or license under [***] owned or controlled by such Third Party that [***] the Zymeworks Platform to develop, use, manufacture, commercialize, import or otherwise Exploit such Licensed Product.

(f) Royalty Floor. The royalties owed to Zymeworks with respect to a Licensed Product may not be reduced from the rates set forth in Section 5.1.4(a), as a result of the cumulative deductions set forth in Sections 5.1.4(c) through (e) to less than [***] of the Licensed Product Royalty otherwise payable for such Licensed Product under Section 5.1.4(a) (the "**Royalty Floor**").

ARTICLE 6
REPORTS AND PAYMENT TERMS

6.1 Payment Terms.

6.1.1 Invoices. Except as otherwise provided herein, amounts shall be due and payable within [***] of receipt of an invoice therefor.

6.1.2 Milestone Payments. Atreca shall provide Zymeworks with notice of the first achievement (either by Atreca, its Affiliate or Sublicensee) of each Development and Regulatory Milestone Event within the time period specified in Section 5.1.3(a). Zymeworks shall provide an invoice for the corresponding Development and Regulatory Milestone Payment, and Atreca shall make the corresponding payment in accordance with Section 6.1.1. Atreca shall provide Zymeworks with written notice of the first achievement (either by Atreca, its Affiliate or Sublicensee) of each Commercialization Milestone Event [***] in accordance with Section 6.1.3, and shall make the corresponding milestone payment [***].

6.1.3 Royalties. During the Royalty Term, Atreca shall furnish to Zymeworks a written report for each [***] showing the Net Sales of Licensed Products sold by Atreca and its Related Parties during the reporting [***] and the Licensed Product Royalties payable under this Agreement [***], including, (a) [***], and (b) the manner and basis for any currency conversion in accordance with Section 6.2. Reports shall be due no later than [***] following the end of each [***]. Licensed Product Royalties shown to have accrued by each report provided under this Section 6.1.3 shall be due and payable on the date such report is due.

6.2 Payment Currency / Exchange Rate. All payments to be made under this Agreement shall be made in USD. Payments to Zymeworks shall be made by electronic wire transfer of immediately available funds to the account of Zymeworks, as designated in writing to Atreca. If any currency conversion is required in connection with the calculation of amounts payable hereunder, such conversion shall be made in a manner consistent with Atreca's normal practices used to prepare its audited financial statements for external reporting purposes; provided that such practices use a widely accepted source of published exchange rates.

6.3 Taxes.

6.3.1 General. Each Party shall be responsible for its own tax liabilities arising under this Agreement. Subject to this Section 6.3, Zymeworks shall be liable for all income and other similar taxes (including interest) ("**Taxes**") imposed upon any payments made by Atreca to Zymeworks under this Agreement ("**Agreement Payments**"). If Applicable Laws require the withholding of Taxes, Atreca shall (a) deduct such Taxes from the applicable payment, (b) pay the Taxes to the proper taxing authority, and (c) submit to Zymeworks appropriate proof of payment of the withheld Taxes as well as the official receipts (if available) within a reasonable period of

time. If any Taxes are so deducted or withheld, such deducted or withheld amounts shall be treated for all purposes of this Agreement as having been paid to Zymeworks. Atreca and Zymeworks shall use commercially reasonable efforts to cooperate and take all reasonable steps to avoid deducting such taxes and to obtain double taxation relief prior to the subtraction of the withholding amount there of from the Agreement Payments. Atreca shall provide Zymeworks reasonable assistance in order to allow Zymeworks to obtain the benefit of any present or future treaty against double taxation or refund or reduction in Taxes which may apply to the Agreement Payments. Zymeworks shall provide to Atreca such properly completed and duly executed documentation reasonably requested by Atreca which will permit payments under this Agreement to be made without, or at a reduced rate of, withholding Taxes. Without limiting the foregoing, (i) within [***] days following the Effective Date, Zymeworks shall deliver to Atreca a properly completed Internal Revenue Service Form W-9, or the appropriate version of IRS Form W-8, as applicable, and (ii) at least [***] Notwithstanding the foregoing, if solely as a result of Atreca assigning this Agreement or changing its domicile after the Effective Date, Atreca is required to withhold Taxes that would not have otherwise been required to be withheld hereunder, and it is not possible for such withholding obligation to be reduced or eliminated through the reasonable cooperation of the Parties, then Atreca shall pay Zymeworks an amount such that Zymeworks is in the same after-tax position as Zymeworks would have been had no such assignment or change in domicile been made.

6.3.2 Indirect Taxes. All payments pursuant to this Agreement are exclusive of Indirect Taxes. If any Indirect Taxes are properly chargeable in respect of any payments hereunder, Atreca shall pay such Indirect Taxes at the applicable rate in respect of such payments following receipt, where applicable, of an Indirect Taxes invoice in the appropriate form issued by Zymeworks in respect of those payments. Zymeworks shall issue invoices for all amounts payable under this Agreement consistent with Indirect Tax requirements. Atreca and Zymeworks shall reasonably cooperate to minimize any Indirect Taxes or request any available refund of Indirect Taxes paid pursuant to this Section 6.3.2 from any applicable governmental authority or other fiscal authority, which amount will be transferred to Atreca within [***] of receipt. As used herein, "**Indirect Taxes**" means any value added, sales, purchase, turnover or consumption tax as may be applicable in any relevant jurisdiction.

6.4 Records and Audit Rights.

6.4.1 Records. Each Party shall keep (and shall cause its Related Parties to keep) complete, true and accurate books and records in sufficient detail for the other Party to determine payments owed by Atreca to Zymeworks under this Agreement, including royalties and payments for the supply of Linker-Cytotoxins pursuant to Section 4.4.3. Each Party shall keep such books and records for at least [***] following [***] to which they pertain.

6.4.2 Audit Rights.

(a) Each Party (the "**Auditing Party**") shall have the right during the [***] period described in Section 6.4.1 to appoint at its expense an independent certified public accountant of nationally recognized standing (the "**Accounting Firm**") reasonably acceptable to the other Party (the "**Audited Party**") to inspect or audit the relevant records of the Audited Party and its Related Parties to verify that the amount of such payments were correctly determined. The Audited Party and its Related Parties shall each make its records available for inspection or audit

by the Accounting Firm during regular business hours for a period of [***] from the creation of individual records at such place or places where such records are customarily kept, upon reasonable notice from Auditing Party, solely to verify the payments hereunder were correctly determined. Notwithstanding the foregoing, if either Party is not able, despite using reasonable efforts, to obtain the right for the Auditing Party to audit its Sublicensees' records directly in accordance with this Section 6.4.2, then such Party shall obtain for itself, and exercise, a comparable right to inspect or audit such records of such Sublicensee and shall provide the results of each such inspection or audit to the Auditing Party, promptly after completion of each such audit. Such inspection or audit right shall not be exercised by the Auditing Party more than [***] in any [***] and may cover a period ending not more than [***] prior to the date of such request. All records made available for inspection or audit pursuant to this Section 6.4.2 shall be deemed to be Confidential Information of the Audited Party. The results of each inspection or audit, if any, shall be binding on both Parties, absent manifest error. If the amount of any payment hereunder was underreported by Atreca, Atreca shall [***] make payment to Zymeworks of the underreported amount. If the amount of any payment by Atreca exceeded the correct amount owed by Atreca, Zymeworks shall provide a credit in such overpaid amount against future payments to be made by Atreca. The Auditing Party shall bear the full cost of an audit that it conducts pursuant to this Section 6.4.2 unless such audit discloses an underreporting by the Audited Party (in the case of Atreca as the Audited Party) or an overreporting by the Audited Party (in the case of Zymeworks as the Audited Party) of more than [***] of the aggregate amount of the payments hereunder or under the Supply Agreement reportable in any [***], in which case the Audited Party shall reimburse the Auditing Party for all reasonable out-of-pocket costs incurred in connection with such inspection or audit.

(b) The Accounting Firm will disclose to the Auditing Party only whether the payments subject to such audit are correct or incorrect and the specific details concerning any discrepancies. No other information will be provided to the Auditing Party without the prior consent of the Audited Party unless disclosure is required by Applicable Laws or judicial order. The information provided by the Accounting Firm to the Auditing Party shall be considered Confidential Information of the Audited Party subject to the confidentiality obligations set forth in Article 8. The Accounting Firm shall provide a copy of its report and findings to the Audited Party.

ARTICLE 7
INTELLECTUAL PROPERTY RIGHTS

7.1 Ownership of Inventions. Ownership of all Inventions, including Patent Rights and other intellectual property rights with respect to such Inventions, shall be as set forth in this Article 7. Determination of inventorship of Inventions shall be made in accordance with US patent laws. Each Party will continue to own any Patent Rights and Know-How that it owned prior to the Effective Date or that it creates or obtains outside the scope of this Agreement, or which it licenses to the other Party under this Agreement.

7.1.1 Zymeworks Platform Improvements. As between the Parties and notwithstanding Section 7.1.3, Zymeworks shall own all rights, title and interest in and to the Zymeworks Platform Improvements, regardless of inventorship. For clarity, the Zymeworks Platform Improvements will be subject to the licenses set forth in Section 2.1.

7.1.2 Antibody Improvements and Conjugate IP. As between the Parties and notwithstanding Section 7.1.3, Atreca shall own all rights, title and interest in and to Antibody Improvements, regardless of inventorship. In addition, solely after Atreca's [***] in accordance with Section 2.1.2(b)(i), [***].

7.1.3 Ownership by Inventorship. As between the Parties and except as otherwise provided in Section 7.1.1 and 7.1.2, Inventions that are made solely by Zymeworks or its Affiliate or a Third Party acting under authority of Zymeworks or its Affiliate (and all intellectual property rights therein, including the Patent Rights claiming them) shall be owned solely by Zymeworks; Inventions that are made solely by Atreca or its Affiliate or a Third Party acting under authority of Atreca or its Affiliate (and all intellectual property rights therein, including the Patent Rights claiming them) shall be owned solely by Atreca; and Joint Inventions (and the Joint Patent Rights) shall be owned jointly by the Parties, with each Party having an equal, undivided interest therein. Subject to Article 2, [***].

7.1.4 Assignment; Further Assurances. Each Party shall promptly disclose to the other Party any and all Joint Inventions made by or on behalf of such Party or its Related Parties. Atreca shall promptly disclose to Zymeworks any and all Zymeworks Platform Improvements made by or on behalf of Atreca or its Related Parties. Atreca shall assign, and hereby assigns, to Zymeworks all rights, title and interest in and to the Zymeworks Platform Improvements. For clarity, Atreca shall obtain an assignment of any and all Zymeworks Platform Improvements made by or on behalf of its Related Parties to the extent necessary to enable Atreca to, in turn, assign such Zymeworks Platform Improvements to Zymeworks as set forth above. Zymeworks shall promptly disclose to Atreca any and all Antibody Improvements [***] made by or on behalf of Zymeworks or its Related Parties. Zymeworks shall assign, and hereby assigns, to Atreca all rights, title and interest in and to the Antibody Improvements and, [***]. For clarity, Zymeworks shall obtain an assignment of any and all Antibody Improvements [***] made by or on behalf of its Related Parties to the extent necessary to enable Zymeworks to, in turn, assign such Antibody Improvements [***] to Atreca as set forth above. For further clarity, the Parties [***]. Each Party shall sign, execute and acknowledge or cause to be signed, executed and acknowledged [***] any and all documents and to perform such acts as may be reasonably requested by such other Party for the purposes of perfecting the foregoing assignments.

7.1.5 License to Zymeworks. Atreca on behalf of itself and its Affiliates hereby grants to Zymeworks an exclusive (subject to Atreca's retained rights in this Section 7.1.5), perpetual, irrevocable, royalty-free worldwide license, with the right to grant and authorize sublicenses, under Inventions made solely by Atreca using the Zymeworks Platform that comprise methods of conjugating Linker-Cytotoxins to antibodies and other proteins (including Patent Rights claiming them) solely to Exploit such Inventions with the Zymeworks Platform. For clarity, Atreca shall retain the right to Exploit (itself, or with or through its Affiliates or Third Parties) the foregoing Inventions (a) other than with the Zymeworks Platform and (b) within the Zymeworks Platform in connection with the exercise of the Research License and (after the applicable Commercial License Effective Date) Commercial Licenses granted to Atreca.

7.2 Patent Prosecution and Maintenance.

7.2.1 Definitions. As used in this Section 7.2, "prosecution" includes (a) all communication and other interaction with any patent office or patent authority having jurisdiction over a patent application in connection with pre-grant proceedings and (b) post-grant proceedings, including interferences, *inter partes* review, reexaminations, reissues, oppositions, and the like.

7.2.2 Zymeworks Prosecuted Patent Rights. Zymeworks, [***], shall have the sole right to control the preparation, filing, prosecution and maintenance of Zymeworks Patent Rights [***] (such Patent Rights, the "**Zymeworks Prosecuted Patent Rights**") using patent counsel of Zymeworks' choice. Zymeworks shall keep Atreca reasonably informed with respect to the status of the filing, prosecution and maintenance of the Zymeworks Prosecuted Patent Rights. With respect to any Zymeworks Patent Rights solely related to the Selected Linker-Cytotoxin incorporated in any Licensed Product and with respect to any [***], Zymeworks shall provide copies of proposed material submissions and correspondence to any patent office related to the filing, prosecution and maintenance of such Zymeworks Patent Rights [***] for review and comment reasonably prior to the submission of such proposed submissions and correspondences (and, to the extent feasible, [***] prior to the submission thereof). Zymeworks shall take into consideration in good faith comments timely made by Atreca. Zymeworks shall promptly give notice to Atreca of the grant, lapse, revocation, surrender, invalidation or abandonment of any Zymeworks Prosecuted Patent Rights (including [***]). Atreca may assume responsibility for continuing the prosecution or maintenance of any such [***] in such country or region and paying any required fees to maintain such [***] in such country or region, in each case [***] and through patent counsel of its choice. Upon transfer of Zymeworks' responsibility for prosecuting and maintaining any of the [***] under this Section 7.2.2, Zymeworks shall promptly deliver to Atreca copies of all necessary files related to such Patent Rights with respect to which responsibility has been transferred and shall take all actions and execute all documents reasonably necessary for Atreca to assume such prosecution and maintenance.

7.2.3 Atreca Prosecuted Patent Rights. Atreca, [***], shall have the sole right to control the preparation, filing, prosecution and maintenance of [***] (such Patent Rights, collectively, the "**Atreca Prosecuted Patent Rights**"), using patent counsel of Atreca's choice; provided that, [***]; provided further that, if the Research Program Term expires without Atreca's exercise of the Atreca Option in accordance with Section 2.1.2(b)(i) with respect to a Collaboration Program, then (a) [***], and (b) [***]. For clarity, Atreca Prosecuted Patent Rights include [***]. With respect to any [***], Atreca shall provide copies of proposed material submissions and correspondence to any patent office related to the filing, prosecution and maintenance of such [***] for review and comment reasonably prior to the submission of such proposed submissions and correspondences (and, to the extent feasible, [***] prior to the submission thereof). Atreca shall promptly give notice to Zymeworks of the grant, lapse, revocation, surrender, invalidation or abandonment of any [***] so as to provide for a reasonable amount of time to meet any applicable deadline to establish or preserve such [***] in such country or region. Zymeworks may assume responsibility for continuing the prosecution or maintenance of such [***] in such country or region and paying any required fees to maintain such Patent Right in such country or region, in each case at Zymeworks' sole expense and through patent counsel of its choice. Upon transfer of Atreca's responsibility for prosecuting and maintaining any of the [***] under this Section 7.2.3 or in the event a [***] as provided in this Section 7.2.3, Atreca shall promptly deliver to

Zymeworks copies of all necessary files related to such Patent Rights with respect to which responsibility has been transferred and shall take all actions and execute all documents reasonably necessary for Zymeworks to assume such prosecution and maintenance.

7.2.4 Cooperation in Prosecution. Each Party shall provide the other Party all reasonable assistance and cooperation in the patent prosecution efforts provided above in Section 7.2, including providing any necessary powers of attorney and assignments of employees of the Parties and their Affiliates and Sublicensees and Third Party contractors, executing any other required documents or instruments for such prosecution. All communications between the Parties relating to the preparation, filing, prosecution or maintenance of the Zymeworks Prosecuted Patent Rights and Atreca Prosecuted Patent Rights, including copies of any draft or final documents or any communications received from or sent to patent offices or patenting authorities with respect to such Patent Rights, shall be considered Confidential Information, subject to Article 8. For clarity, (a) all such communications regarding the Zymeworks Prosecuted Patent Rights (other than [***]) shall be the Confidential Information of Zymeworks, (b) all such communications regarding the Atreca Prosecuted Patent Rights shall be the Confidential Information of Atreca and (c) all such communications regarding [***] shall be the Confidential Information of both Parties.

7.3 Enforcement and Defense.

7.3.1 Notice. Each Party shall provide prompt notice to the other Party of any infringement of any Zymeworks Prosecuted Patent Right or Atreca Prosecuted Patent Right as a result of the making, using, offering to sell, selling or importing of a product that comprises [***] (each such product, an "**Infringing Product**" and each such infringement, an "**Applicable Infringement**") of which such Party becomes aware. In addition, each Party shall provide prompt notice to the other Party of any Third Party infringement (other than an Applicable Infringement) of (a) any [***] or (b) any [***]. Atreca and Zymeworks shall thereafter consult and cooperate fully to determine a course of action, including the commencement of legal action by either or both Atreca and Zymeworks, to terminate any such Applicable Infringement.

7.3.2 Zymeworks Prosecuted Patent Rights. Zymeworks shall have the first right to enforce the Zymeworks Prosecuted Patent Rights with respect to any Applicable Infringement and to defend any declaratory judgment action with respect thereto, at its own expense and by counsel of its own choice and in the name of Zymeworks [***]. Zymeworks shall promptly notify Atreca of each such enforcement action, [***] keep Atreca reasonably informed about such action, [***], and [***]. In no event shall Zymeworks admit the invalidity of or fail to defend the validity of (a) [***] that [***], or (b) [***], in either case, ((a) or (b)), without Atreca's prior written consent, not to be unreasonably withheld, conditioned or delayed. [***], or against any [***], within (i) [***] following the notice of alleged Applicable Infringement or infringement of [***] provided pursuant to Section 7.3.1 or (b) [***], whichever comes first, Atreca shall have the right to enforce such [***], or such [***], and to defend any declaratory judgment action with respect thereto, at its own expense and by counsel of its own choice [***] (other than [***]), [***] (for clarity, excluding [***]) other than Applicable Infringement, at its own expense and by counsel of its own choice and shall retain all recoveries relating thereto.

7.3.3 Atreca Prosecuted Patent Rights.

(a) Atreca shall have the sole right to enforce all Atreca Prosecuted Patent Rights (other than [***]), and to control the defense of any declaratory judgment action relating thereto, with respect to any infringement of such Atreca Prosecuted Patent Rights (for clarity, excluding [***]), at its own expense and by counsel of its own choice, and shall retain all recoveries relating thereto. At Atreca's request and expense, Zymeworks shall cooperate with Atreca in connection with such action, including by providing information and materials and, if required by Applicable Law to bring such action, the furnishing of a power of attorney or being named as a party to such action.

(b) Atreca shall have the first right to enforce the [***] with respect to any infringement of such [***] and to defend any declaratory judgment action with respect thereto, at its own expense and by counsel of its own choice and in the name of Atreca, and Zymeworks shall have the right, at its own expense, to be represented in any such action by counsel of its own choice in any such enforcement or defense of the [***] against an [***] (collectively, "**Relevant Conjugate Infringements**"). Atreca shall promptly notify Zymeworks of each such enforcement action, consider in good faith the interests of Zymeworks in such action, keep Zymeworks reasonably informed about such action, permit Zymeworks to review draft material filings for such action, and reasonably consider Zymeworks' comments and suggestions with respect to such filings and such action. In no event shall Atreca admit the invalidity of or fail to defend the validity of any [***] in the context of an enforcement action against Relevant Conjugate Infringements, without Zymeworks' prior written consent, not to be unreasonably withheld, conditioned or delayed. If Atreca fails to bring or defend any such action against any Relevant Conjugate Infringement of any [***] within (a) [***] following the notice of alleged Applicable Infringement provided pursuant to Section 7.3.1 or (b) [***], whichever comes first, Zymeworks shall have the right to enforce such [***] with respect to such Relevant Conjugate Infringement and to defend any declaratory judgment action with respect thereto, at its own expense and by counsel of its own choice and in the name of Zymeworks, and Atreca shall have the right, at its own expense, to be represented in any such action by counsel of its own choice. In no event shall Zymeworks admit the invalidity of, or after exercising its right to bring and control an action under this Section 7.3.3(b), fail to defend the validity of any [***], without the Atreca's prior written consent, not to be unreasonably withheld, conditioned or delayed. For clarity, Atreca shall have the sole right to enforce all Atreca Prosecuted Patent Rights (including [***]), and to control the defense of any declaratory judgment action relating thereto, with respect to any infringement of such Atreca Prosecuted Patent Rights other than Relevant Conjugate Infringements, at its own expense and by counsel of its own choice, and shall retain all recoveries relating thereto.

7.3.4 Enforcement Action. In the event a Party brings an enforcement action in accordance with Section 7.3.2 or Section 7.3.3(b) (the "**Controlling Party**"), such Controlling Party shall keep the other Party reasonably informed of the progress of any such action, and the other Party shall cooperate fully with the Controlling Party, at the Controlling Party's request and expense, including by providing information and materials and, if required by Applicable Law to bring such action, the furnishing of a power of attorney or being named as a party to such action.

7.3.5 Recovery. Except as expressly provided otherwise in this Section 7.3, any recovery obtained by either or both Atreca and Zymeworks in connection with or as a result of any

action with respect to an enforcement action of (a) [***], (b) [***], or (c) [***], in each case contemplated by Section 7.3.1, Section 7.3.2 or Section 7.3.3(b), as applicable, whether by settlement or otherwise, shall be shared in order as follows:

(a) [***]; and

(b) [***].

7.3.6 Certification. Each Party shall inform the other Party of any certification regarding any Zymeworks Prosecuted Patent Right or Royalty-Bearing Conjugate Patent Right it received with respect to a Licensed Product, in each case pursuant to either 21 U.S.C. §§355(b)(2)(A)(iv) or (j)(2)(A)(vii)(IV) or its successor provisions, or any similar provisions in a country in the Territory other than the United States, and shall provide the other Party with a copy of such certification within [***] of receipt. Zymeworks' and Atreca's rights with respect to the initiation and prosecution of any legal action as a result of such certification or any recovery obtained as a result of such legal action shall be as defined in Section 7.3.2 through Section 7.3.5 hereof. Regardless of which Party has the right to initiate and prosecute such action, both Parties shall, as soon as practicable after receiving notice of such certification, convene and consult with each other regarding the appropriate course of conduct for such action. The non-initiating Party shall have the right to be kept reasonably informed and participate in decisions regarding the appropriate course of conduct for such action.

7.3.7 Defense of Infringement Claims. In the event that a claim is brought against either Party or an Affiliate alleging the infringement, violation or misappropriation of any Third Party intellectual property right based on the manufacture, use, sale or importation of a Licensed Product, the Party first receiving notice of such actual or threatened action, suit or proceeding shall promptly notify the other Party, and the Parties shall promptly meet to discuss the defense of such claim. The Parties shall, as appropriate, enter into a joint defense agreement with respect to the common interest privilege protecting communications regarding such claim in a form reasonably acceptable to the Parties.

7.4 Trademark. The Licensed Products shall be sold under one or more trademarks and trade names selected and owned by Atreca or its Affiliates or Sublicensees. As between the Parties, Atreca shall control the preparation, prosecution and maintenance of applications related to all such trademarks and trade names, at its sole cost and expense and at its sole discretion.

ARTICLE 8
CONFIDENTIALITY

8.1 Duty of Confidence. During the Term and for [***] thereafter (or in the case of trade secrets, until such time as the trade secret passes into the public domain), all Confidential Information disclosed by one Party to the other Party hereunder shall be maintained in confidence by the receiving Party and shall not be disclosed to any Third Party or used for any purpose, except as set forth herein, without the prior written consent of the disclosing Party. The recipient Party may only use Confidential Information of the other Party for purposes of exercising its rights and fulfilling its obligations under this Agreement and may disclose Confidential Information of the other Party and its Affiliates to employees, agents, contractors, consultants and advisers of the

recipient Party and its Affiliates, licensees and Sublicensees to the extent reasonably necessary for such purposes; provided that such persons and entities are bound by written obligations of confidentiality and non-use of the Confidential Information consistent with the confidentiality provisions of this Agreement as they apply to the recipient Party.

8.2 Exceptions. The obligations under this Article 8 shall not apply to any information to the extent the recipient Party can demonstrate by competent evidence that such information:

8.2.1 is (at the time of disclosure) or becomes (after the time of disclosure) known to the public or part of the public domain through no breach of this Agreement by the recipient Party or its Affiliates;

8.2.2 was known to, or was otherwise in the possession of, the recipient Party or its Affiliates prior to the time of disclosure by the disclosing Party, as evidenced by its contemporaneous written records;

8.2.3 is disclosed to the recipient Party or an Affiliate on a non-confidential basis by a Third Party that is entitled to disclose it without breaching any confidentiality obligation to the disclosing Party or any of its Affiliates; or

8.2.4 is independently developed by or on behalf of the recipient Party or its Affiliates, as evidenced by its contemporaneous written records, without use of or reference to the Confidential Information disclosed by the disclosing Party or its Affiliates under this Agreement.

8.3 Authorized Disclosures. Subject to this Section 8.3, the recipient Party may disclose Confidential Information belonging to the other Party to the extent permitted as follows:

8.3.1 such disclosure is deemed necessary to the recipient Party to be disclosed to such Party's attorneys, independent accountants or financial advisors for the sole purpose of enabling such attorneys, independent accountants or financial advisors to provide advice or services to the receiving Party in connection with this Agreement, on the condition that such attorneys, independent accountants and financial advisors are bound by confidentiality and non-use obligations consistent with the confidentiality provisions of this Agreement as they apply to the recipient Party;

8.3.2 disclosure by Atreca or its Affiliates or Sublicensees (a) to obtain or maintain approval to conduct Clinical Trials for a Licensed Product, or (b) to obtain and maintain Regulatory Approval or to otherwise develop, manufacture, market and Exploit Licensed Products;

8.3.3 disclosure by a Party or its Affiliates, including to governmental or other regulatory agencies, in connection with filing, prosecuting, obtaining or maintaining Patent Rights in accordance with Article 7, provided that Zymeworks shall not disclose any Antibody, Lead Sequence, Back-up Sequence or Conjugate in any Patent Rights (including any patent applications) without Atreca's prior written consent (which Atreca may grant or withhold in its discretion);

8.3.4 disclosure required in connection with any judicial or administrative process relating to or arising from this Agreement (including any enforcement hereof) or to comply

with applicable court orders, governmental regulations or Applicable Law (or the rules of any recognized stock exchange or quotation system); or

8.3.5 disclosure to potential or actual investors or potential or actual acquirers or actual or potential sublicensees in connection with due diligence or similar investigations by such Third Parties or, in the case of Atreca's actual Sublicensees, the practice of such sublicense; provided, in each case, that any such potential or actual investor or acquirer or sublicensee agrees to be bound by written obligations of confidentiality and non-use consistent with those contained in this Agreement as they apply to the recipient Party.

If the recipient Party is required by judicial or administrative process to disclose Confidential Information that is subject to the non-disclosure provisions of this Article 8, such Party shall promptly inform the other Party of the disclosure that is being sought in order to provide the other Party an opportunity to challenge or limit the disclosure obligations. Confidential Information that is disclosed as permitted by this Section 8.3 shall remain otherwise subject to the confidentiality and non-use provisions of this Article 8, and the Party disclosing Confidential Information as permitted by this Section 8.3 shall take all steps reasonably necessary, including obtaining an order of confidentiality and otherwise cooperating with the other Party, to ensure the continued confidential treatment of such Confidential Information.

ARTICLE 9
PUBLICATIONS AND PUBLICITY

9.1 Publications.

9.1.1 Atreca shall have the sole right to publish the results of the Research Program and any data or results obtained by Atreca with respect to Licensed Products in accordance with this Section 9.1.

9.1.2 With respect to any paper or presentation proposed for disclosure by Atreca or its Related Parties that includes Confidential Information of Zymeworks (which includes patentable information and information directly related to a Linker-Cytotoxin), Atreca shall submit to Zymeworks the proposed publication or presentation (including posters, slides, abstracts, manuscripts, marketing materials and written descriptions of oral presentations) at least [***] prior to the date of submission for publication or the date of presentation, whichever is earlier, of any of such submitted materials.

9.1.3 Within [***] after receipt of a proposed publication or presentation, Zymeworks shall have the right (a) to request the removal of its Confidential Information from any such publication or presentation by Atreca, and upon such request, Atreca shall so remove Zymeworks' Confidential Information, or (b) to request a reasonable delay in such publication or presentation in order to protect patentable information. If Zymeworks requests such a delay, Atreca shall, at Atreca's election, either (i) remove Zymeworks' Confidential Information from such publication or presentation, or (ii) delay submission or presentation for a period of [***] to enable patent applications protecting Zymeworks' rights in such information to be filed in accordance with Article 7.

9.2 Publicity.

9.2.1 The Parties will mutually agree on a press release with respect to this Agreement and either Party may make subsequent public disclosure of the contents of such press release. Subject to the foregoing, each Party agrees not to issue any press release or other public statement, whether oral or written, disclosing the terms hereof without the prior written consent of the other Party (such consent not to be unreasonably withheld, conditioned or delayed), provided that neither Party will be prevented from complying with any duty of disclosure it may have pursuant to Applicable Laws or pursuant to the rules of any recognized stock exchange or quotation system, subject to that Party notifying the other Party of such duty and limiting such disclosure as reasonably requested by the other Party (and giving the other Party sufficient time to review and comment on any proposed disclosure). Notwithstanding the foregoing, Atreca shall have the right to make a public announcement regarding the achievement of any Development and Regulatory Milestone Event or Commercialization Milestone Event under Article 5, provided that Atreca shall provide Zymeworks with no less than [***] (if reasonably possible subject to Applicable Law) in which to review and comment on such announcement, and shall take Zymeworks' comments into consideration in good faith. Each Party may make public statement or disclosure, so long as any such public statement or disclosure is not inconsistent with prior public statements or disclosures approved by the other Party pursuant to this Section 9.2 and which do not reveal other non-public information about the other Party not already disclosed in such prior public statements.

9.2.2 Each Party may disclose this Agreement and its terms, in securities filings with the US Securities Exchange Commission (the "**SEC**") or equivalent foreign agency to the extent required by Applicable Laws after complying with the procedure set forth in this Section 9.2.2. In such event, the Party seeking such disclosure shall prepare a draft confidential treatment request and proposed redacted version of this Agreement to request confidential treatment for the redacted portions of this Agreement, and the other Party agrees to promptly (and in any event, within [***] after receipt of such confidential treatment request and proposed redactions) give its input in a reasonable manner in order to allow the Party seeking disclosure to file its request within the time lines proscribed by Applicable Laws. The Party seeking such disclosure shall reasonably consider any comments thereto provided by the other Party within [***] period, and shall use reasonable efforts to obtain confidential treatment of this Agreement from the SEC (or equivalent foreign agency) as represented by the redacted version revised by the other Party.

9.2.3 Each Party acknowledges that the other Party may be legally required to make public disclosures (including in filings with governmental authorities) of certain terms of or material developments or material information generated under this Agreement and agrees that each Party may make such disclosures as required by Applicable Laws; provided that the Party seeking such disclosure first provides the other Party a copy of the proposed disclosure, and shall reasonably consider any comments thereto provided by the other Party within [***] after the receipt of such proposed disclosure or such shorter period required to comply with Applicable Laws.

ARTICLE 10
TERM AND TERMINATION

10.1 Term; Expiration.

10.1.1 The term of this Agreement (the "**Term**") will commence on the Effective Date and (subject to earlier termination in accordance with Sections 10.2, 10.3, 10.4 or 10.5) will expire, on a Licensed Product-by-Licensed Product basis, on the expiration of the Royalty Term for such Licensed Product. Notwithstanding the foregoing, in the event Atreca does not nominate a Sequence to be the Lead Sequence for any Collaboration Program during the Research Program Term, the Term shall expire on the expiration of the Research Program Term. In the event of expiration of this Agreement pursuant to the foregoing sentence, Atreca shall, and shall ensure that its Related Parties, (a) cease all research and development of the Research Products and Conjugates or any other antibodies conjugated with, otherwise containing or made using the Zymeworks Platform; and (b) promptly return to Zymeworks or destroy, at Atreca's election, all material provided by Zymeworks to Atreca hereunder and Linker-Cytotoxins (alone or conjugated to an antibody).

10.1.2 Upon expiration (and not earlier termination in accordance with Sections 10.2, 10.3, 10.4, or 10.5) of the Royalty Term with respect to a Licensed Product in a particular country, the Commercial License granted to Atreca under Section 2.1.2 shall become non-exclusive, fully paid-up, perpetual and irrevocable, solely with respect to such Licensed Product in such country.

10.2 Termination for Convenience. Atreca shall have the right to terminate this Agreement, in its entirety or on a Collaboration Program-by-Collaboration Program basis, at any time in its sole discretion upon [***] prior written notice to Zymeworks. If Atreca terminates this Agreement with respect to a Collaboration Program, the Commercial License shall terminate with respect to such Collaboration Program and all Licensed Products arising from such Collaboration Program.

10.3 Termination for Patent Challenge. If Atreca or its Related Party files or initiates an action challenging (directly or indirectly (e.g., through a Third Party)) in a court or by administrative proceeding seeking the invalidity or unenforceability or seeking to limit the scope of any Zymeworks Patent Rights, other than any such challenge in defense of any claim raised by Zymeworks (or any of its Affiliates or Third Party (sub)licensees) against Atreca (or any of its Affiliates or Sublicensees) that Atreca (or any of its Affiliates or Sublicensees) infringe the Zymeworks Patent Rights, then Zymeworks, at its discretion, may terminate this Agreement and the licenses granted to Atreca under Sections 2.1.1 and 2.1.2 upon [***] notice unless such challenge is withdrawn, abandoned, or terminated (as appropriate) within such [***] period, provided that Zymeworks may not terminate this Agreement as the result of a patent challenge brought by Atreca's Sublicensee if Atreca or its Affiliate terminates such Sublicensee's sublicense to the challenged Zymeworks Patent Right within [***] of Zymeworks providing notice to Atreca regarding such patent challenge.

10.4 Termination for Cause. If either Atreca or Zymeworks is in material breach of this Agreement, the non-breaching Party may give notice to the breaching Party specifying the

claimed particulars of such breach, and in such event, if the breach is not cured within [***] after receipt of such notice, the non-breaching Party shall have the right thereafter to terminate this Agreement immediately in its entirety or with respect to a Collaboration Program (if the material breach is specific to such Collaboration Program) by giving notice to the breaching Party to such effect; provided that if the nature of the asserted breach (other than a breach for non-payment or a breach by Atreca or its Related Parties that results in Atreca or its Related Parties exceeding the scope of the Research License or Commercial License) is such that more than [***] are reasonably required to cure, then the cure period shall be reasonably extended (for a period not to exceed an additional [***] or such longer period as the Parties may mutually agree) so long as the Party seeking to cure the asserted breach is diligently pursuing such cure to completion. If the alleged breaching Party disputes in good faith the existence or materiality of a breach specified in a notice provided by the other Party, or whether the material breach has been cured, and such alleged breaching Party provides the other Party written notice of such dispute within the applicable period set forth in this Section 10.4, then the other Party shall not have the right to terminate this Agreement in its entirety or with respect to a Collaboration Program, as applicable, under this Section 10.4 unless and until such dispute is resolved in accordance with Section 14.4. During the pendency of such dispute, all the terms of this Agreement will remain in effect and the Parties will continue to perform all of their respective obligations hereunder. Notwithstanding anything contained in this Agreement to the contrary, if the asserted material breach is cured, shown to be non-existent or immaterial within the applicable cure period or determined under Section 14.4 to have been non-existent, immaterial or cured, the first notice of breach hereunder shall be deemed automatically withdrawn and of no effect.

10.5 Termination for Insolvency. Each Party shall have the right to terminate this Agreement upon delivery of written notice to the other Party in the event that (a) such other Party files in any court or agency pursuant to any statute or regulation of any jurisdiction a petition in bankruptcy or insolvency or for reorganization or similar arrangement for the benefit of creditors or for the appointment of a receiver or trustee of such other Party or its assets, (b) such other Party is served with an involuntary petition against it in any insolvency proceeding and such involuntary petition has not been stayed or dismissed within [***] of its filing, or (c) such other Party makes an assignment of substantially all of its assets for the benefit of its creditors.

ARTICLE 11
EFFECTS OF TERMINATION

11.1 Expiration or Termination of Agreement.

11.1.1 If this Agreement terminates or expires in its entirety or with respect to a Collaboration Program for any reason, then no later than [***] after the effective date of such termination, Atreca shall pay to Zymeworks all amounts then due and owing to Zymeworks under the terminated portion of the Agreement as of the termination date.

11.1.2 If this Agreement terminates or expires in its entirety, each Party shall return or cause to be returned to the other Party, or destroy, all Confidential Information received from the other Party and all copies thereof; provided that each Party may keep one (1) copy of Confidential Information received from the other Party in its confidential files for record purposes;

and provided further that each Party may retain any Confidential Information reasonably necessary to exercise any surviving rights in accordance with this Agreement.

11.1.3 Any sublicense granted by Atreca or its Affiliates under a Commercial License shall survive the termination of this Agreement in its entirety or with respect to a Collaboration Program (if a Sublicensee only has rights with respect to such Collaboration Program), if requested by such Sublicensee in writing within [***] of the effective date of such termination, provided that, (a) such Sublicensee agrees in writing to assume the applicable obligations of such Party hereunder with respect to activities of such Sublicensee, and (b) in the case of termination of this Agreement for patent challenge pursuant to Section 10.3 or for Atreca's uncured material breach pursuant to Section 10.4, such Sublicensee did not bring such patent challenge or cause such uncured material breach. For each such surviving sublicense, the applicable Sublicensee shall enter into an agreement acknowledging and setting forth in detail the foregoing and Zymeworks shall grant to such Sublicensee a direct license under the Zymeworks Intellectual Property equal in scope as that granted by Atreca to such Sublicensee. Notwithstanding the foregoing, any sublicenses granted under the Commercial License shall not survive termination of this Agreement by Atreca pursuant to Section 10.2.

11.1.4 If this Agreement terminates in its entirety, the Research License shall terminate, and Atreca shall, and shall ensure its Related Parties, (i) cease all research, development and commercialization of the Research Products and antibodies conjugated with, otherwise containing or made using the Zymeworks Platform; and (ii) promptly return to Zymeworks or destroy, at Atreca's election, all materials provided by Zymeworks and Linker-Cytotoxins (alone or conjugated to an antibody).

11.1.5 If this Agreement terminates in its entirety or with respect to a Collaboration Program pursuant to Section 10.2, 10.3, 10.4 or 10.5, and subject to Sections 11.2, 11.3 and 11.4, the Licensed Products that are the subject of a Commercial License that is terminated may be referred to herein as "**Terminated Product(s)**".

11.1.6 If this Agreement terminates in its entirety or with respect to a Collaboration Program pursuant to Section 10.2, 10.3, 10.4 or 10.5, any Commercial License that is in effect under Article 2*,* and all obligations of Atreca with respect thereto, shall immediately terminate with respect to the Terminated Product(s) (or in their entirety, if such termination is with respect to this Agreement in its entirety), except to the extent necessary for Atreca to fulfill its obligations pursuant to this Section 11.1.6. For clarity, any licenses that do not terminate under this Section 11.1.6 shall remain subject to the terms of this Agreement. With respect to any Terminated Product, Atreca shall be responsible, [***], for the wind-down of its and its Affiliates' and, its Sublicensees' development, manufacture and commercialization activities for the Terminated Product(s) as set forth herein; provided that Atreca, its Affiliates and Sublicensees shall have an additional [***] after the effective date of any termination of the applicable Terminated Product(s) to sell any remaining inventory of such Terminated Product(s) in its or their possession and such sales shall be subject to the applicable payment obligations under Section 5.1 (together with Atreca's record-keeping and reporting obligations and Zymeworks' audit rights in Article 6). If, at the time of such termination, Atreca or its Affiliates are conducting any Clinical Trials with a Terminated Product, then Atreca shall use commercially reasonable efforts, [***], to promptly wind-down the conduct of any such Clinical Trial; provided that, Atreca may continue to dose

subjects enrolled in any then ongoing Clinical Trial through completion of the applicable protocol for such Clinical Trial to the extent such dosing is required by the Regulatory Authority(ies) or Applicable Laws.

11.2 Survival. Termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such termination, nor affect in any way the survival of any other right, duty or obligation of the Parties which is expressly stated elsewhere in this Agreement to survive such termination. Without limiting the foregoing and except as expressly set forth otherwise in this Agreement, Articles 1, 8 (for the period set forth therein), 11, 13, and 14 and Sections 4.2.1, 6.1-6.3 (for payments accrued but not yet paid prior to the effective date of termination), 6.4 (for the period set forth therein), and 7.1 shall survive the expiration or termination of this Agreement. Except as otherwise expressly provided herein (including in this Article 11), all other rights and obligations of the Parties under this Agreement shall terminate upon termination or expiration of this Agreement.

11.3 Damages; Relief. Termination of this Agreement shall not preclude either Party from claiming any other damages, compensation or relief that it may be entitled to upon such termination.

11.4 Bankruptcy Code. If this Agreement is rejected by Zymeworks as a debtor under Section 365 of the United States Bankruptcy Code or similar provision in the bankruptcy laws of another jurisdiction (the "**Code**"), then, notwithstanding anything else in this Agreement to the contrary, all licenses and rights to licenses granted under or pursuant to this Agreement by Zymeworks to Atreca are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code (or similar provision in the bankruptcy laws of the jurisdiction), licenses of rights to "intellectual property" as defined under Section 101(35A) of the United States Bankruptcy Code (or similar provision in the bankruptcy laws of the jurisdiction). The Parties agree that Atreca shall retain and may fully exercise all of its rights and elections under the Code. The foregoing provisions of this Section 11.4 are without prejudice to any rights a Party may have arising under the Code.

ARTICLE 12
REPRESENTATIONS AND WARRANTIES

12.1 Representations and Warranties by Each Party. Each Party represents and warrants to the other as of the Effective Date that:

12.1.1 it is a corporation duly organized, validly existing, and in good standing under the laws of its jurisdiction of formation;

12.1.2 it has full corporate power and authority to execute, deliver, and perform this Agreement, and has taken all corporate action required by Applicable Laws and its organizational documents to authorize the execution and delivery of this Agreement and the consummation of the transactions contemplated by this Agreement;

12.1.3 this Agreement constitutes a valid and binding agreement enforceable against it in accordance with its terms (except as the enforceability thereof may be limited by bankruptcy, bank moratorium or similar laws affecting creditors' rights generally and laws

restricting the availability of equitable remedies and may be subject to general principles of equity whether or not such enforceability is considered in a proceeding at law or in equity); and

12.1.4 the execution and delivery of this Agreement and all other instruments and documents required to be executed pursuant to this Agreement, and the consummation of the transactions contemplated hereby do not and shall not (a) conflict with or result in a breach of any provision of its organizational documents, (b) result in a breach of any agreement to which it is a party; or (c) violate any Applicable Laws.

12.2 Representations and Warranties by Zymeworks. Zymeworks represents and warrants to Atreca as of the Effective Date that:

12.2.1 Zymeworks has the right to grant to Atreca the licenses and rights under Section 2.1 that it purports to grant hereunder;

12.2.2 Zymeworks has not granted, and will not grant during the Term, rights to any Third Party under the Zymeworks Intellectual Property that conflict with the rights granted to Atreca hereunder;

12.2.3 Zymeworks has not received any written notice of any threatened claims or litigation seeking to invalidate or otherwise challenge the Zymeworks Patent Rights or Zymeworks' rights therein;

12.2.4 [***]

12.2.5 to its knowledge, the Zymeworks Patent Rights are not subject to any pending re-examination, opposition, interference or litigation proceedings; and

12.2.6 neither it nor any of its Affiliates is or has been: (a) debarred by the FDA under 21 U.S.C. § 335a, or to its knowledge, threatened with debarment by a pending proceeding, action, or investigation; (b) excluded from participation in any federal health care program, including Medicare and Medicaid, the U.S. Department of Defense Military Health System, and the U.S. Department of Veterans Affairs, pursuant to the Department of Health and Human Services Office of Inspector General's exclusion authority under 42 U.S.C. § 1320a-7(a), as implemented by 42 C.F.R. Part 1001 et seq., or the subject of an exclusion proceeding; or (c) otherwise disqualified under 21 C.F.R. Part 58, subpart K or 21 C.F.R. § 312.7 or any other similar federal or state law.

12.3 Representations and Warranties by Atreca. Atreca represents and warrants to Zymeworks as of the Effective Date that neither it nor any of its Affiliates is or has been: (a) debarred by the FDA under 21 U.S.C. § 335a, or to its knowledge, threatened with debarment by a pending proceeding, action, or investigation; (b) excluded from participation in any federal health care program, including Medicare and Medicaid, the U.S. Department of Defense Military Health System, and the U.S. Department of Veterans Affairs, pursuant to the Department of Health and Human Services Office of Inspector General's exclusion authority under 42 U.S.C. § 1320a-7(a), as implemented by 42 C.F.R. Part 1001 et seq., or the subject of an exclusion proceeding; or (c) otherwise disqualified under 21 C.F.R. Part 58, subpart K or 21 C.F.R. § 312.7 or any other similar federal or state law

12.4 Limitation. NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY, EITHER EXPRESS OR IMPLIED, THAT ANY OF THE RESEARCH, DEVELOPMENT, OR COMMERCIALIZATION EFFORTS WITH REGARD TO ANY RESEARCH PRODUCT, LICENSED PRODUCT OR ZYMEWORKS PRODUCT WILL BE SUCCESSFUL.

12.5 No Other Warranties. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, EACH PARTY EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS OR WARRANTIES OF ANY KIND WITH RESPECT TO THE SUBJECT MATTER OF THIS AGREEMENT, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

12.6 Compliance with Anti-Corruption Laws.

12.6.1 Notwithstanding anything to the contrary in this Agreement, each Party agrees that: it shall not, in the performance of this Agreement, undertake any act that is prohibited by the United States Foreign Corrupt Practices Act, the Canada Corruption of Foreign Public Officials Act, or any other applicable anti-corruption law (collectively, the "**Anti-Corruption Laws**").

12.6.2 Each Party represents and warrants that neither it nor any of its Affiliates, or its or their directors, officers, employees, or, to the Party's knowledge, the distributors, agents, representatives, sales intermediaries or other Third Parties acting on behalf of such Party or any of its Affiliates in the performance of this Agreement has taken any action in violation of the Anti-Corruption Laws.

12.6.3 Each Party further represents and warrants that, as of the Effective Date, none of the officers, directors or employees of such Party or of any of its Affiliates or, to its knowledge, the distributors, agents, representatives, sales intermediaries or other Third Parties acting on behalf of such Party or any of its Affiliates, is (i) an officer, employee or representative of any regional, federal, state, provincial, county or municipal government or government department, agency or other division; (ii) an officer, employee or representative of any commercial enterprise that is owned or controlled by a government, including any state-owned or controlled veterinary, laboratory or medical facility; (iii) an officer, employee or representative of any public international organization, such as the African Union, the International Monetary Fund, the United Nations or the World Bank; or (iv) a person acting in an official capacity for any government or government entity, enterprise or organization identified above.

ARTICLE 13
INDEMNIFICATION AND LIABILITY

13.1 Indemnification by Zymeworks. Zymeworks shall indemnify, defend and hold Atreca and its Affiliates, and their respective officers, directors, employees, contractors, agents and assigns (each, an "**Atreca Indemnified Party**"), harmless from and against losses, damages and liability, including reasonable legal expense and attorneys' fees, (collectively, "**Losses**") to which any Atreca Indemnified Party may become subject as a result of any Third Party demands,

claims or actions ("**Third Party Claims**") against any Atreca Indemnified Party arising or resulting from: (a) the negligence or willful misconduct of Zymeworks or its Affiliates or Third Parties (including licensees, other than Atreca, and contractors) acting under their authority pursuant to this Agreement; or (b) the material breach of this Agreement by Zymeworks; provided that Zymeworks is only obliged to so indemnify and hold the Atreca Indemnified Parties harmless to the extent that such Third Party Claims do not arise from the material breach of this Agreement by or the negligence or willful misconduct of Atreca or its Related Parties.

13.2 Indemnification by Atreca. Atreca shall indemnify, defend and hold Zymeworks and its Affiliates, and their respective officers, directors, employees, contractors, agents and assigns (each, a "**Zymeworks Indemnified Party**"), harmless from and against Losses incurred by any Zymeworks Indemnified Party as a result of any Third Party Claims against any Zymeworks Indemnified Party (including product liability claims) arising or resulting from: (a) the research, development or commercialization of Research Products or Licensed Products by Atreca or its Affiliates or Third Parties acting under their authority under this Agreement; (b) the negligence or willful misconduct of Atreca or its Affiliates or Third Parties (including collaborators and other sublicensees and contractors) acting under their authority pursuant to this Agreement; or (c) the material breach of this Agreement by Atreca; provided that Atreca is only obliged to so indemnify and hold the Zymeworks Indemnified Parties harmless to the extent that such Third Party Claims do not arise from the material breach of this Agreement or the negligence or willful misconduct of Zymeworks or its Related Parties.

13.3 Indemnification Procedure.

13.3.1 Any Atreca Indemnified Party or Zymeworks Indemnified Party seeking indemnification hereunder ("**Indemnified Party**") shall notify the Party against whom indemnification is sought ("**Indemnifying Party**") in writing reasonably promptly after the assertion against the Indemnified Party of any Third Party Claim in respect of which the Indemnified Party intends to base a claim for indemnification hereunder, but the failure or delay so to notify the Indemnifying Party shall not relieve the Indemnifying Party of any obligation or liability that it may have to the Indemnified Party except to the extent that the Indemnifying Party demonstrates that its ability to defend or resolve such Third Party Claim is adversely affected thereby.

13.3.2 Subject to the provisions of Section 13.3.3 below, the Indemnifying Party shall have the right, upon providing notice to the Indemnified Party of its intent to do so within [***] after receipt of the notice from the Indemnified Party of any Third Party Claim, to assume the defense and handling of such Third Party Claim, at the Indemnifying Party's sole expense.

13.3.3 The Indemnifying Party shall select counsel reasonably acceptable to the Indemnified Party in connection with conducting the defense and handling of such Third Party Claim, and the Indemnifying Party shall defend or handle the same in consultation with the Indemnified Party, and shall keep the Indemnified Party timely apprised of the status of such Third Party Claim. The Indemnifying Party shall not, without the prior written consent of the Indemnified Party, agree to a settlement of any Third Party Claim which could lead to liability or create any financial or other obligation on the part of the Indemnified Party for which the Indemnified Party is not entitled to indemnification hereunder, or would involve any admission of

wrongdoing on the part of the Indemnified Party. The Indemnified Party shall cooperate with the Indemnifying Party, at the request and expense of the Indemnifying Party, and shall be entitled to participate in the defense and handling of such Third Party Claim with its own counsel and at its own expense.

13.4 Special, Indirect and Other Losses. NEITHER PARTY, NOR ANY OF ITS AFFILIATES, SHALL BE LIABLE UNDER THIS AGREEMENT FOR SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFITS SUFFERED BY THE OTHER PARTY, EXCEPT FOR (A) LIABILITY FOR BREACH BY SUCH PARTY OF ARTICLE 8, (B) [***]; OR (C) [***]. NOTHING IN THIS SECTION 13.4 SHALL BE CONSTRUED TO LIMIT EITHER PARTY'S INDEMNIFICATION OBLIGATIONS UNDER THIS ARTICLE 13.

13.5 Insurance. Each Party, at its own expense, shall maintain liability insurance (or self-insure) in an amount consistent with industry standards during the Term. Each Party shall provide a certificate of insurance (or evidence of self-insurance) evidencing such coverage to the other Party upon request.

ARTICLE 14
GENERAL PROVISIONS

14.1 Assignment. Except as provided in this Section 14.1, this Agreement may not be assigned or otherwise transferred, nor may any right or obligation hereunder be assigned or transferred, by either Party without the consent of the other Party; provided that (and notwithstanding anything elsewhere in this Agreement to the contrary) either Party may, without such consent, assign this Agreement and its rights and obligations hereunder in whole or in part to an Affiliate of such Party, provided further that, either Party, without the written consent of the other Party, may assign this Agreement and its rights and obligations hereunder (or under a transaction under which this Agreement is assumed) in connection with the transfer or sale of all or substantially all of its assets or business related to the subject matter of this Agreement, or in the event of its merger or consolidation or similar transaction. Any attempted assignment not in accordance with this Section 14.1 shall be void. Any permitted assignee shall assume all assigned obligations of its assignor under this Agreement.

14.2 Severability. Should one or more of the provisions of this Agreement become void or unenforceable as a matter of Applicable Laws, then this Agreement shall be construed as if such provision were not contained herein and the remainder of this Agreement shall continue in full force and effect, and the Parties shall use their best efforts to substitute for the invalid or unenforceable provision a valid and enforceable provision which conforms as nearly as possible with the original intent of the Parties.

14.3 Governing Law; English Language. This Agreement shall be governed by and construed in accordance with, and all disputes arising under or in connection with this Agreement shall be resolved in accordance with, the laws of the State of New York and the patent laws of the United States without reference to any rules of conflict of laws. This Agreement was prepared in the English language, which language shall govern the interpretation of, and any dispute regarding, the terms of this Agreement.

14.4 Dispute Resolution.

14.4.1 In the event of any dispute, claim or controversy arising out of or relating to this Agreement, including any action or claim based on tort, contract or statute, or the interpretation, effect, termination, validity, performance, enforcement or breach thereof (each, a "**Dispute**"), between the Parties and the Parties cannot resolve such Dispute through good faith discussions within [***] of a written request by either Party to the other Party ("**Notice of Dispute**"), either Party may refer the Dispute to senior representatives of each Party for resolution. Each Party, within [***] after a Party has received the Notice of Dispute, shall notify the other Party in writing of the senior representative to whom such Dispute is referred. If, after [***] after the Notice of Dispute, such representatives have not succeeded in amicably resolving the Dispute, and a Party wishes to pursue the matter, each such Dispute, that is not an "Excluded Claim" (defined below) shall be finally resolved by binding arbitration administered by JAMS pursuant to its Comprehensive Arbitration Rules and Procedures (the "**Rules**"). Any disputes concerning the propriety of the commencement of arbitration or the scope or applicability of this agreement to arbitrate shall be determined by arbitration. Judgment on the award may be entered in any court having jurisdiction.

14.4.2 The arbitration shall be conducted by a single arbitrator experienced in the business of pharmaceuticals (including biologicals). The arbitrator shall be deemed to meet these qualifications unless a Party objects within [***] after the arbitrator is selected. Within [***] after the commencement of arbitration, the Parties shall select the arbitrator. If the Parties are unable or fail to agree upon the arbitrator within such [***] period, the arbitrator shall be appointed by JAMS in accordance with the Rules. If the issues in dispute involve scientific, technical or commercial matters, the arbitrator chosen hereunder may, after consulting with the Parties, appoint one or more experts, define their terms of reference and receive their reports. At the request of a Party, the Parties shall be given the opportunity to question at a hearing any such expert. The seat, or legal place, of arbitration shall be New York City, New York and all proceedings and communications shall be in English. The Parties shall make reasonable efforts to conclude the arbitration as promptly as possible. The Parties shall require the arbitrator to render a written decision no later than [***] following the selection of the arbitrator, including a basis for any damages awarded and a statement of how the damages were calculated; provided, that such time period may be extended by agreement of the Parties or upon petition to the arbitrator by either Party to avoid manifest injustice. If the final award is rendered after this time period expires, the Parties agree this shall not be a basis to seek to vacate, set aside, or resist enforcement of the award.

14.4.3 Nothing herein shall preclude the Parties from seeking interim relief necessary to protect their rights or property, or provisional remedies in aid of arbitration, from a court of appropriate jurisdiction prior to selection of the arbitrator. After the arbitrator has been selected, either Party may apply to a court of competent jurisdiction for interim or provisional relief with the arbitrator's authorization. The award shall be final and binding on the Parties and the Parties undertake to carry out any award without delay. Judgment upon the award may be entered in any court of competent jurisdiction. The arbitrator shall have no authority to award punitive or any other type of damages not measured by a Party's compensatory damages. Each Party shall bear its own costs and expenses and attorneys' fees and an equal share of the arbitrator's fees and any administrative fees of arbitration, unless the arbitrator determines otherwise.

14.4.4 Except to the extent necessary to prepare for or conduct the arbitration, to challenge or enforce an award, to apply to a court for interim relief or provisional measures or as may be required by law, neither a Party nor the arbitrator may disclose the existence, content, or results of an arbitration without the prior written consent of both Parties. In no event shall an arbitration be initiated after the date when commencement of a legal or equitable proceeding based on the dispute, controversy or claim would be barred by the applicable New York statute of limitations.

14.4.5 As used in this Section 14.4, the term "**Excluded Claim**" means any dispute, controversy or claim that concerns (a) the validity, enforceability or infringement of any patent, trademark or copyright, or (b) any antitrust, anti-monopoly or competition law or regulation, whether or not statutory. Any Excluded Claim may be submitted by either Party to any court of competent jurisdiction over such Excluded Claim.

14.5 Force Majeure. Neither Party shall be responsible to the other for any failure or delay in performing any of its obligations under this Agreement or for other nonperformance hereunder (excluding, in each case, the obligation to make payments when due) if such delay or nonperformance is caused by strike, fire, flood, earthquake, accident, war, act of terrorism, act of God, epidemic or pandemic (including any quarantine, lock-down or similar movement restriction orders imposed by any government or regulatory authority in association therewith) or of the government of any country or of any local government, or by any other cause unavoidable or beyond the reasonable control of a Party hereto and in each case solely to the extent not reasonably foreseeable by such Party (each, a "**Force Majeure Event**"). In such event, the Party affected will use reasonable efforts to resume performance of its obligations and will keep the other Party informed of actions related thereto. If any Force Majeure Event impairs or delays the conduct of the Research Program during the Research Program Term, then upon written request by Atreca and written consent by Zymeworks, not to be unreasonably withheld, conditioned, or delayed, the Research Program Term shall be extended for a period of time equal to the period during which the Research Program was impaired or delayed by such Force Majeure Event (but in no event shall such extension exceed [***], without additional payment to Zymeworks. If a Force Majeure Event precludes performance by a Party of any of its material obligations under this Agreement for a period of more than [***], the Parties shall consult with respect to an equitable solution, including the possibility, if mutually agreed, of termination of this Agreement.

14.6 Waivers and Amendments. The failure of any Party to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement shall not constitute a waiver of that right or excuse a similar subsequent failure to perform any such term or condition by the other Party. No waiver shall be effective unless it has been given in writing and signed by the Party giving such waiver. No provision of this Agreement may be amended or modified other than by a written document signed by authorized representatives of each Party.

14.7 Relationship of the Parties. Nothing contained in this Agreement shall be deemed to constitute a partnership, joint venture, or legal entity of any type between Zymeworks and Atreca, or to constitute one as the agent of the other. Each Party shall act solely as an independent contractor, and nothing in this Agreement shall be construed to give any Party the power or authority to act for, bind, or commit the other.

14.8 Notices. All notices, consents or waivers under this Agreement shall be in writing and will be deemed to have been duly given when (a) scanned and converted into a portable document format file (i.e., pdf file), and sent to the other Party as an attachment to an e-mail message, where, when such message is received, a read receipt e-mail is received by the sender (and such read receipt e-mail is preserved by the Party sending the notice), provided further that a copy is promptly sent by an internationally recognized overnight delivery service (receipt requested)(although the sending of the e-mail message shall be when the notice is deemed to have been given), or (b) the earlier of when received by the addressee or five (5) days after it was sent, if sent by registered letter or overnight courier by an internationally recognized overnight delivery service (receipt requested), in each case to the appropriate addresses and e-mail addresses set forth below (or to such other addresses and e-mail addresses as a Party may designate by notice):

If to Zymeworks: Zymeworks Inc.
540-1385 West 8th Avenue
Vancouver, BC
Canada
V6H 3V9
E-mail address: [***]
With a copy to: [***]

with a copy to: Wilson Sonsini Goodrich & Rosati
28 State Street, 37th Floor
Boston, MA 02109
Attention: [***]
E-mail address: [***]

If to Atreca: Atreca, Inc.
835 Industrial Road, Suite 400
San Carlos, California 94070
[***]

with a copy to: Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304
Attention: Kate Hillier
E-mail address: khillier@cooley.com

14.9 Further Assurances. Atreca and Zymeworks hereby covenant and agree without the necessity of any further consideration, to execute, acknowledge and deliver any and all documents and take any action as may be reasonably necessary to carry out the intent and purposes of this Agreement.

14.10 Performance by Affiliates. Each Party may discharge any obligations and exercise any right hereunder through any of its Affiliates. Each Party hereby guarantees the performance by its Affiliates of such Party's obligations under this Agreement, and shall cause its Affiliates to comply with the provisions of this Agreement in connection with such performance. Any breach by a Party's Affiliate of any of such Party's obligations under this Agreement shall be deemed a

breach by such Party, and the other Party may proceed directly against such Party without any obligation to first proceed against such Party's Affiliate.

14.11 Compliance with Law. Each Party shall perform its obligations under this Agreement in accordance with all Applicable Laws. No Party shall, or shall be required to, undertake any activity under or in connection with this Agreement which violates, or which it believes, in good faith, may violate, any Applicable Laws.

14.12 No Third Party Beneficiary Rights. This Agreement is not intended to and shall not be construed to give any Third Party any interest or rights (including any Third Party beneficiary rights) with respect to or in connection with any agreement or provision contained herein or contemplated hereby, except as otherwise expressly provided for in this Agreement.

14.13 Entire Agreement. This Agreement sets forth the entire agreement and understanding of the Parties as to the subject matter hereof and supersedes all proposals, oral or written, and all other communications between the Parties with respect to such subject matter, including that certain Mutual Confidentiality and Non-Disclosure Agreement by and between the Parties dated as of [***] (the "**CDA**") and the MTA, provided that, for clarity, (a) all Inventions arising under the MTA shall be deemed to have arisen under this Agreement, and shall be deemed to have been subject to the provisions of Section 7.1 as of the date of their conception or reduction to practice and (b) all information shared by the Parties pursuant to the CDA and the MTA shall be deemed Confidential Information under this Agreement, the use and disclosure of which will be governed by Article 8.

14.14 Counterparts; Electronic Signatures. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The Parties agree that execution of this Agreement by industry standard electronic signature software or by exchanging executed signature pages in .pdf format via e-mail shall have the same legal force and effect as the exchange of original signatures, and such electronic signatures shall bind the Parties as if they were original signatures.

14.15 Expenses. Each Party shall pay its own costs, charges and expenses incurred in connection with the negotiation, preparation and completion of this Agreement.

14.16 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective legal representatives, successors and permitted assigns.

14.17 Construction. The Parties hereto acknowledge and agree that: (a) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (b) the rule of construction to the effect that any ambiguities are resolved against the drafting Party shall not be employed in the interpretation of this Agreement; and (c) the terms and provisions of this Agreement shall be construed fairly as to all Parties hereto and not in a favor of or against any Party, regardless of which Party was generally responsible for the preparation of this Agreement.

14.18 Cumulative Remedies. No remedy referred to in this Agreement is intended to be exclusive unless explicitly stated to be so, but each shall be cumulative and in addition to any other remedy referred to in this Agreement or otherwise available under law.

[*Remainder of page left blank intentionally.*]

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Agreement to be executed by their duly authorized representatives.

ZYMEWORKS INC.

By: _____
Name: Kenneth Galbraith
Title: Chief Executive Officer

ATRECA, INC.

By: _____
Name: John A. Orwin
Title: Chief Executive Officer

[Signature Page to Option and License Agreement]

EXHIBIT 1.72

ZYMEWORKS PATENT RIGHTS

[***]

EXHIBIT 4.3.2

ZYMEWORKS SUPPORT RATES

Zymeworks shall provide Atreca with support in accordance with Section 4.3.2 at the following rates [***]:

Zymeworks' Materials and FTE Assistance	Cost
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	[***]

Invoices will be sent to the following address:

or by e-mail to:

and paid by Atreca to Zymeworks in accordance with Section 4.3.2 by wire transfer.

Exhibit 31.1

CERTIFICATION

I, John A. Orwin, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Atreca, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2022

By: /s/ JOHN A. ORWIN
John A. Orwin
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Herbert Cross, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Atreca, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2022

By: /s/ HERBERT CROSS
Herbert Cross
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code, John A. Orwin, Chief Executive Officer of Atreca, Inc. (the "Company"), and Herbert Cross, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended June 30, 2022, to which this Certification is attached as Exhibit 32.1 (the "Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 8, 2022

/s/ JOHN A. ORWIN
John A. Orwin
Chief Executive Officer

/s/ HERBERT CROSS
Herbert Cross
Chief Financial Officer

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Atreca, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.