2023 ASCO ANNUAL MEETING

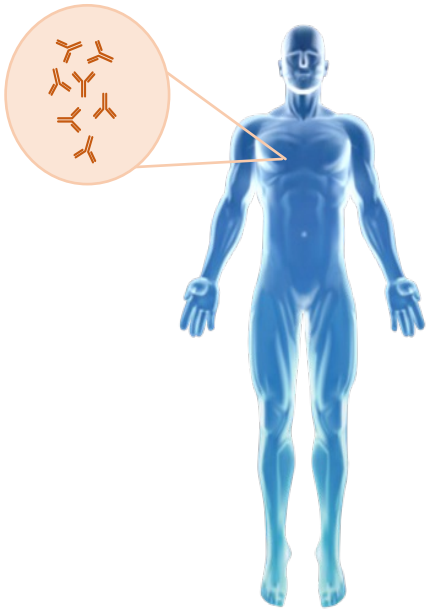
Abstract 2505

Interim Update of The ATRC-101 Phase 1b Trial in Advanced Solid Tumors

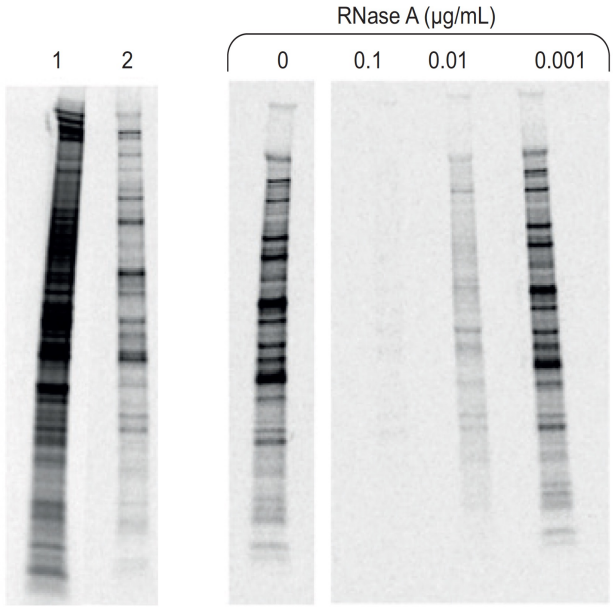
Bartosz Chmielowski, MD, PhD;[1] S. John Weroha, MD, PhD;[2] Susanna Ulahannan, MD, MMEd;[3] Deborah Doroshow, MD, PhD;[4] Frances Valdes-Albini, MD;[5] Tanios S. Bekaii-Saab, MD;[6] John D. Powderly, II, MD;[7] Alejandro Recio-Boiles, MD;[8] Jordan Berlin, MD;[9] Yan Xing, MD, PhD;[10] Sudha Khurana, PhD;[11] Philippe Bishop, MD;[11] Steven J. Isakoff, MD, PhD;[12] Benjamin Weinberg, MD[13]

Affiliations: [1]Jonsson Comprehensive Cancer Center, University of California, Los Angeles, CA; [2]Mayo Clinic, Rochester, MN; [3]Oklahoma U, Oklahoma City, OK; [4]Mount Sinai, NYC, NY; [5]U of Miami, Miami, FL; [6]Mayo Clinic, Phoenix, AZ; [7]Carolina BioOncology Inst., Huntersville, NC; [8]U of Arizona, Tucson, AZ; [9]Vanderbilt U., Nashville, TN; [10]City of Hope, Duarte, CA; [11]Atreca, Inc., San Carlos, CA; [12]Massachusetts General Hospital, Boston, MA; [13]Georgetown U., Washington, DC.

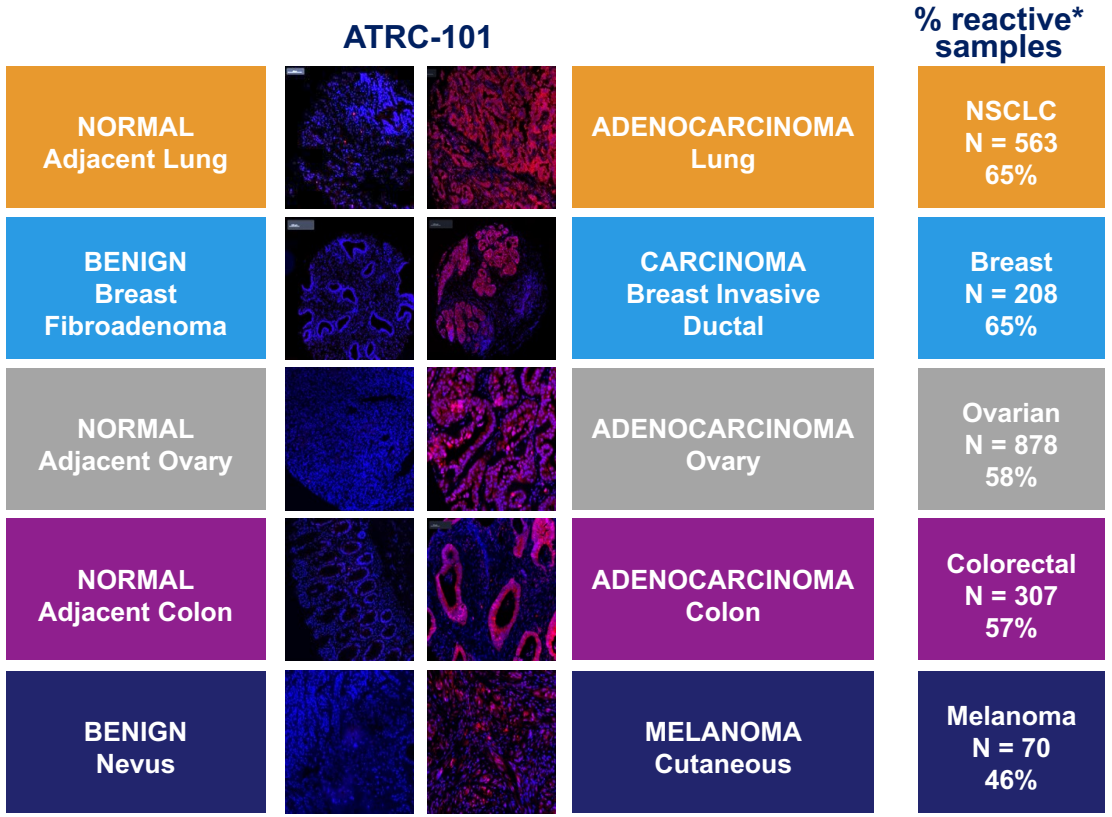
ATRC-101: Novel Tumor-Specific Engineered Antibody Discovered via Atreca's Platform



Lung adenocarcinoma patient undergoing treatment with nivolumab (anti-PD-1)



Target appears to be a RNP particle expressed on cancer cells



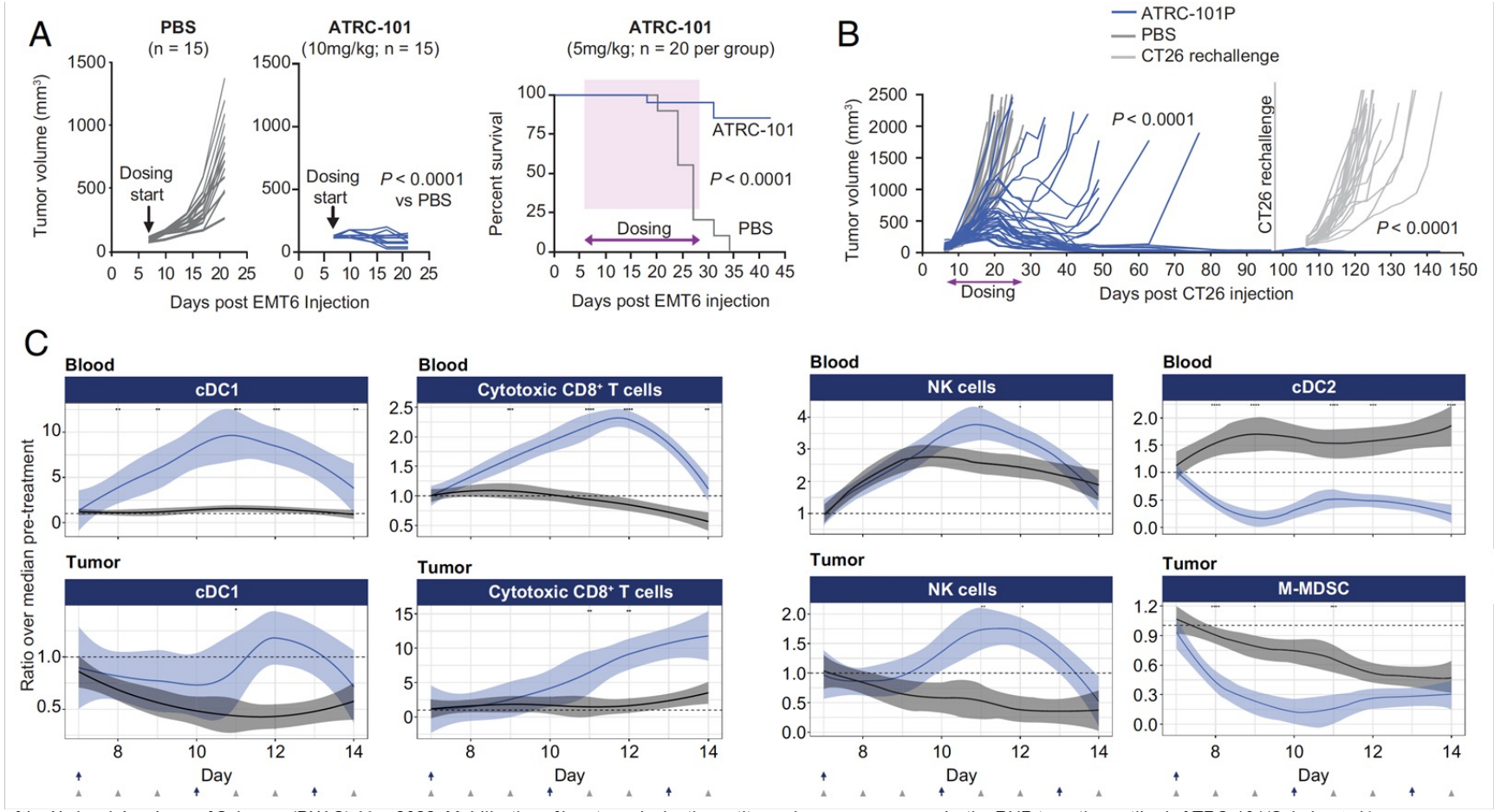
* "Reactive" samples had moderate to high signal overall with ≥ 40% malignant cells positive (N = total samples). Samples were largely from treatment-naïve patients. Percentages based on samples from all subtypes within solid tumor type.

Proceedings of the National Academy of Sciences (PNAS), May 2022. *Mobilization of innate and adaptive antitumor immune responses by the RNP-targeting antibody ATRC-101* (Scholz, et al.)

NSCLC, non-small cell lung cancer; RNP, ribonucleoprotein; PD-1, programmed death 1.

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

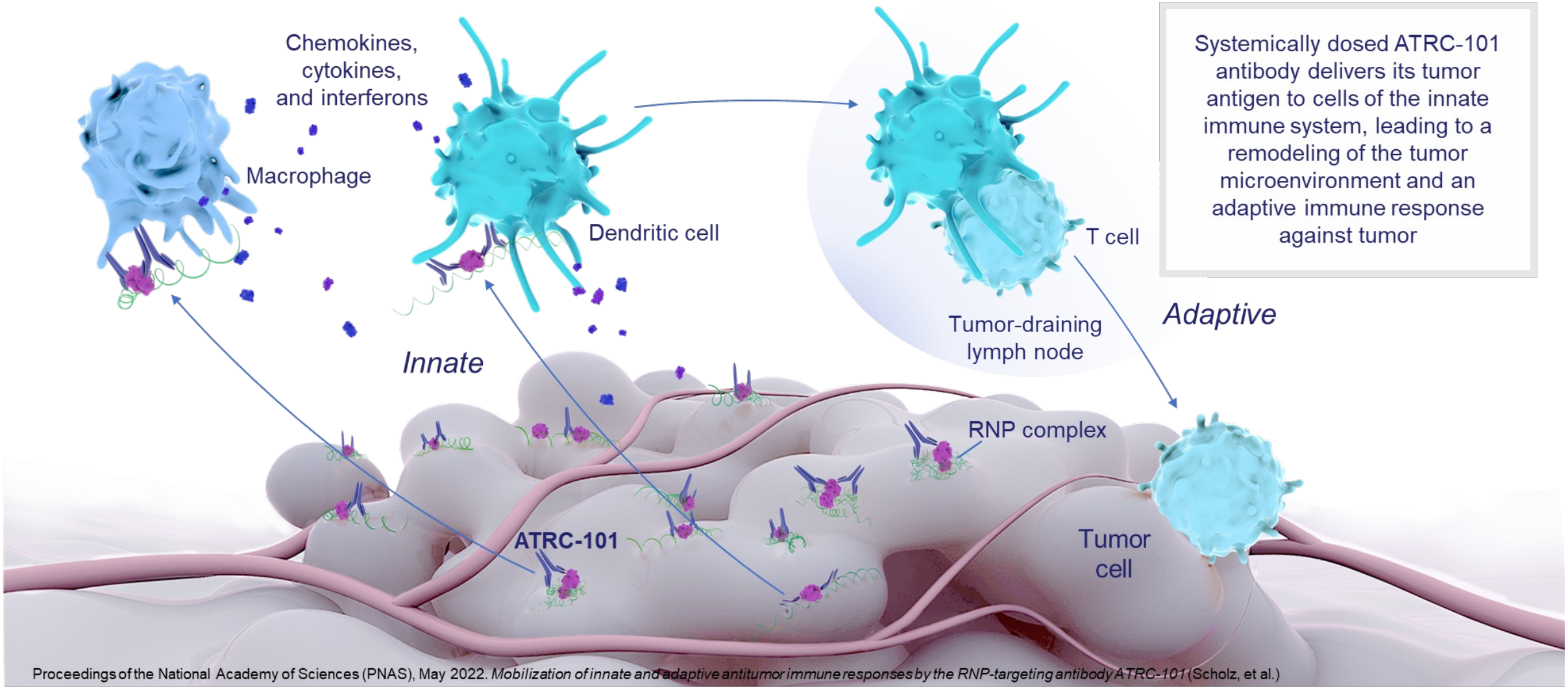
ATRC-101 Activity in EMT6/CT26 Models Driven by Innate and Adaptive Responses



Proceedings of the National Academy of Sciences (PNAS), May 2022. *Mobilization of innate and adaptive antitumor immune responses by the RNP-targeting antibody ATRC-101* (Scholz, et al.)

CD, cluster of differentiation; M-MDSC, monocytic myeloid-derived suppressor cells; NK, natural killer; PBS, phosphate buffered saline.

ATRC-101: Proposed Mechanism of Action



RNP, ribonucleoprotein.

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Phase 1b Trial Design

OBJECTIVES

- Characterize safety
- Evaluate pharmacokinetics
- Determine RDE
- Measure initial clinical activity
- Analyze target expression
- Determine indication/s for expansion

ATRC-101 Monotherapy

- Ovarian cancer
- NSCLC
- CRC
- Breast cancer
- Acral melanoma

Dose Escalation
Q3W & Q2W

Dose Expansion
Q3W only

Target-enriched Expansion
Q3W 30 mg/kg

Simon 2 stage design: the null hypothesis of response rate is 5% for efficacy expansion

ATRC-101 + Pembrolizumab

- NSCLC
- CRC*
- Melanoma
- HCC
- HNSCC
- ESCC
- UC
- TNBC

Dose Escalation
Q3W

Target-enriched Expansion
Q3W 30 mg/kg

Simon 2 stage design: the null hypothesis of response rate is 8% for efficacy expansion

*MSI-H or dMMR.

CRC, colorectal cancer; dMMR, mismatch repair deficient; ESCC, esophageal squamous cell carcinoma; HCC, hepatocellular carcinoma; HNSCC, head and neck squamous cell carcinoma; MSI-H, microsatellite instability-high; NSCLC, non-small cell lung cancer; PD-1, programmed death-1; PD-L1, programmed death-ligand 1; Q2W, every 2 weeks; Q3W, every 3 weeks; RDE, recommended dose for expansion; TNBC, triple-negative breast cancer; UC, urothelial carcinoma.

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Baseline Characteristics

Most Participants Have Received Multiple Prior Lines of Therapy

Baseline Characteristics	Overall (N = 71)	Monotherapy Q3W (n = 48)	Monotherapy Q2W (n = 14)	Pembrolizumab Combination (n = 9)
Age, median years (range)	62 (27–86)	63 (27–79)	53 (42–74)	58 (41–86)
ECOG PS at baseline, n (%)				
0	24 (34)	18 (38)	4 (29)	2 (22)
1	47 (66)	30 (63)	10 (71)	7 (78)
Cancer type, n (%)				
CRC	30 (42)	18 (38)	12 (86)	0
Ovarian	10 (14)	9 (19)	1 (7)	—
Breast	9 (13)	9 (19)	0	0
Melanoma	8 (11)	6 (13)	0	2 (22)
NSCLC	7 (10)	6 (13)	0	1 (11)
HNSCC	3 (4)	—	—	3 (33)
ESCC	1 (1)	—	—	1 (11)
HCC	1 (1)	—	—	1 (11)
Small Bowel*	1 (1)	—	1 (7)	—
Urothelial	1 (1)	—	—	1 (11)
Lines of prior cancer medications, median (range)	5 (1–12)	5 (1–12)	6 (1–8)	3 (1–5)
Prior therapy with checkpoint inhibitor, n (%)	34 (48)	22 (46)	3 (21)	9 (100)

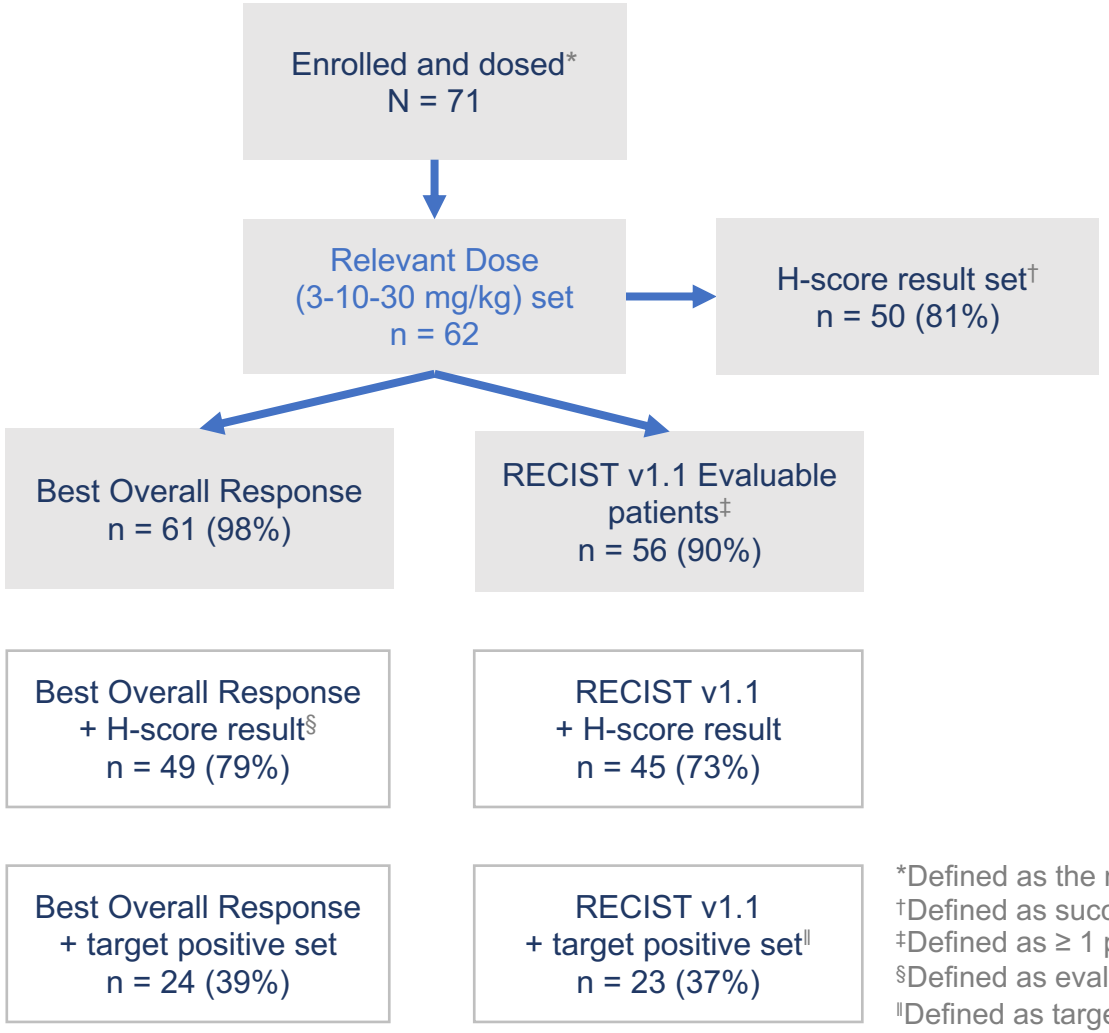
*Protocol deviation.

— = not applicable

CRC, colorectal cancer; ECOG PS, Eastern Cooperative Oncology Group performance status; ESCC, esophageal squamous cell carcinoma, HCC, hepatocellular carcinoma; HNSCC, head and neck squamous cell carcinoma; NSCLC, non-small cell lung cancer; Q2W, every 2 weeks; Q3W, every 3 weeks.

Data Extracted 17-Feb-2023

ATRC-101: Analysis Sets



Analysis Sub-sets	Monotherapy n, (%)	Pembrolizumab Combination n (%)
Safety Set (N = 71)	62	9
Relevant Dose (3-10-30 mg/kg)	53	9
H-score result	41 (77)	9 (100)
RECIST v1.1	49 (92)	7 (78)
RECIST v1.1 & H-score result	38 (72)	7 (78)
RECIST v1.1 & target positive	17 (32)	6 (67)
Best Overall Response & H-score result	41 (77)	8 (89)
Best Overall Response & target positive	17 (32)	7 (78)

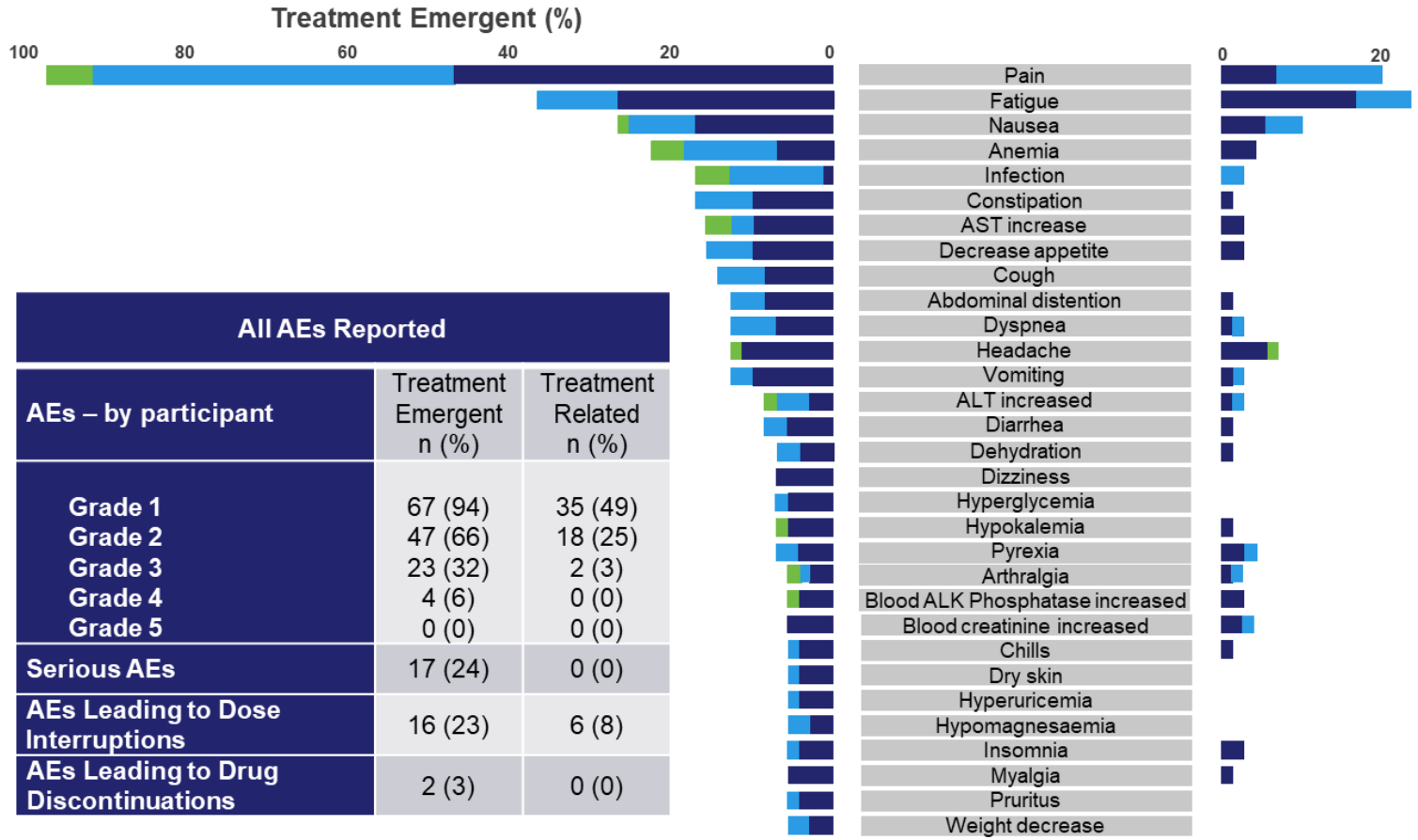
*Defined as the number of participants who have received at least one dose of ATRC-101.
†Defined as successful determination of H-score in a pre-treatment biopsy within the 3-10-30 mg/kg set.
‡Defined as ≥ 1 post-baseline tumor assessment within the 3-10-30 mg/kg set.
§Defined as evaluable for a RECIST v1.1 or clinical response assessment within the 3-10-30 mg/kg set.
‖Defined as target positive screening H-Score ≥ 50 and target negative H-Score < 50 within the 3-10-30 mg/kg set.

RECIST, Response Evaluation Criteria in Solid Tumors.

Data Extracted 17-Feb-2023

ATRC-101: Favorable Safety Profile Observed in Phase 1b

Adverse events reported in ≥ 5% of participants in safety set (N = 71)



All AEs Reported		
AEs – by participant	Treatment Emergent n (%)	Treatment Related n (%)
Grade 1	67 (94)	35 (49)
Grade 2	47 (66)	18 (25)
Grade 3	23 (32)	2 (3)
Grade 4	4 (6)	0 (0)
Grade 5	0 (0)	0 (0)
Serious AEs	17 (24)	0 (0)
AEs Leading to Dose Interruptions	16 (23)	6 (8)
AEs Leading to Drug Discontinuations	2 (3)	0 (0)

Treatment-Related AEs causing treatment interruptions (n = 6):

- Infusion-related reaction
- Tachycardia
- Elevated LFT laboratory values
- Nausea
- Small intestinal obstruction
- Fatigue

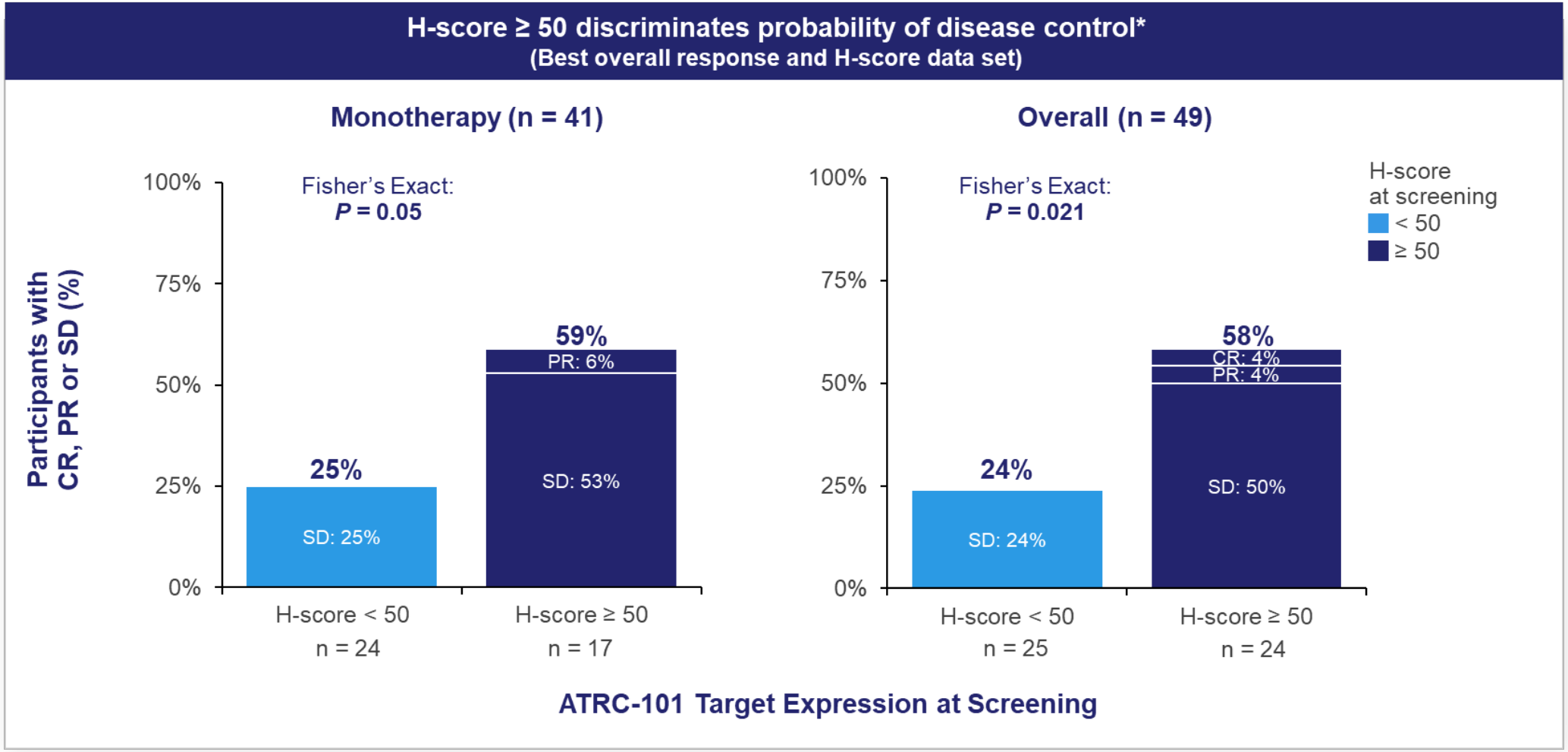
NCI Toxicity*
- Grade 1
- Grade 2
- Grade 3

*Grading by Common Terminology Criteria for AEs, Version 5.0. AE, adverse event; ALK, anaplastic lymphoma kinase; ALT; alanine transaminase; AST; alanine transaminase; LFT, liver function test; NCI, National Cancer Institute.

Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: H-Score Cutoff Predicts Probability of Disease Control



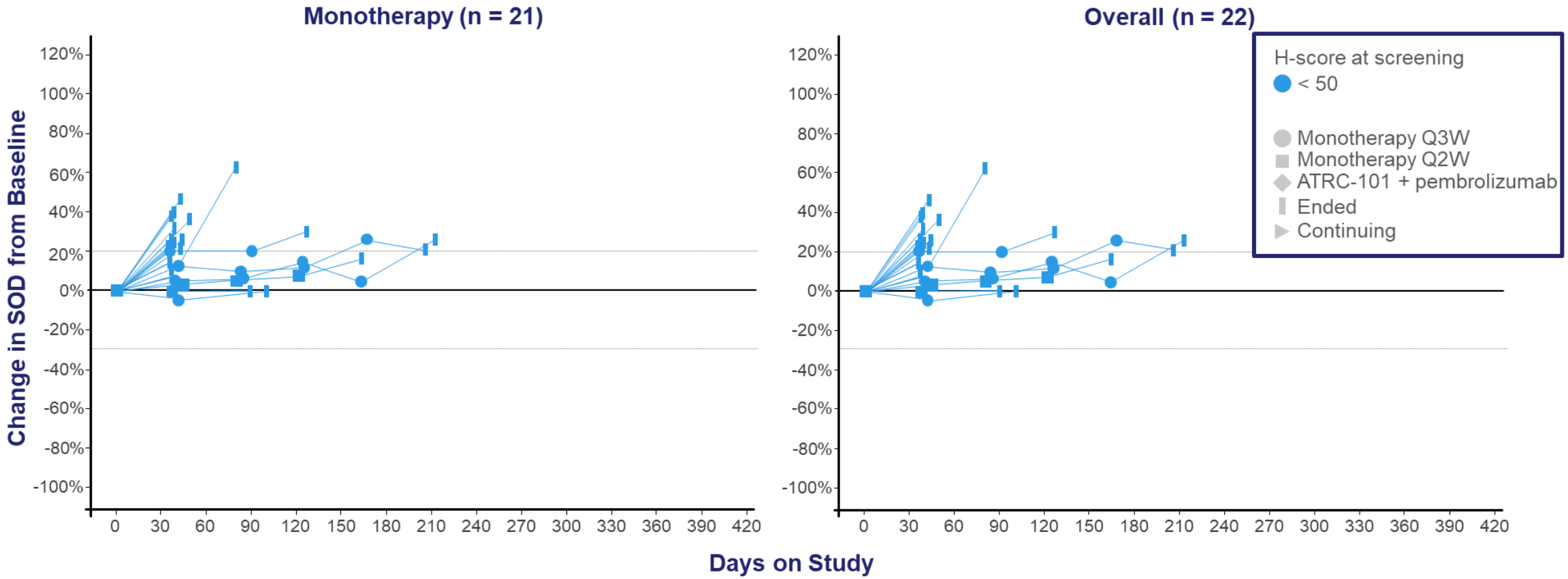
*Disease control = CR + PR + SD. CR, complete response; PD, progressive disease; PR, partial response; SD, stable disease.

Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Anti-tumor Activity Associated with Target Expression

Change in SOD over time and durability of responses
(RECIST v1.1 and target negative monotherapy set)

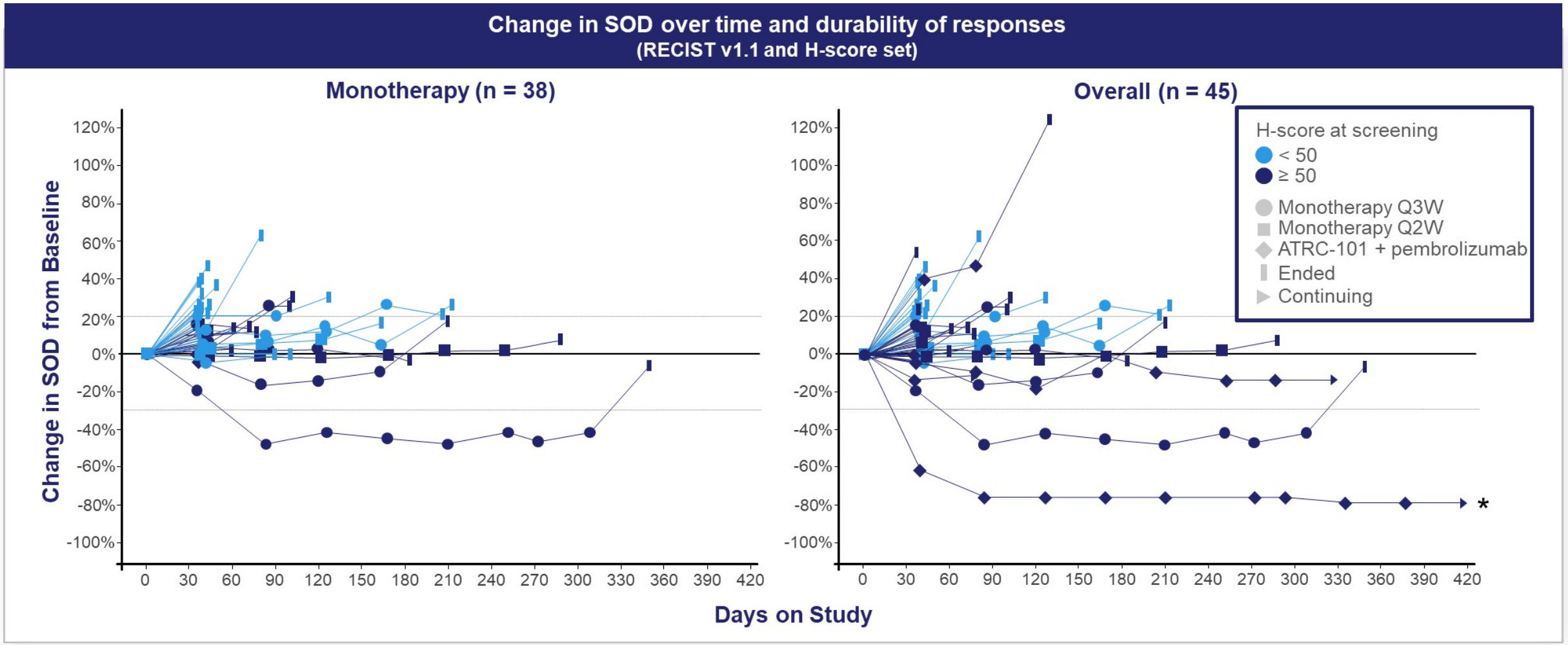


Q2W, every 2 weeks; Q3W, every 3 weeks; RECIST, Response Evaluation Criteria in Solid Tumors; SOD, sum of diameters of target lesions.

Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Anti-tumor Activity Associated with Target Expression



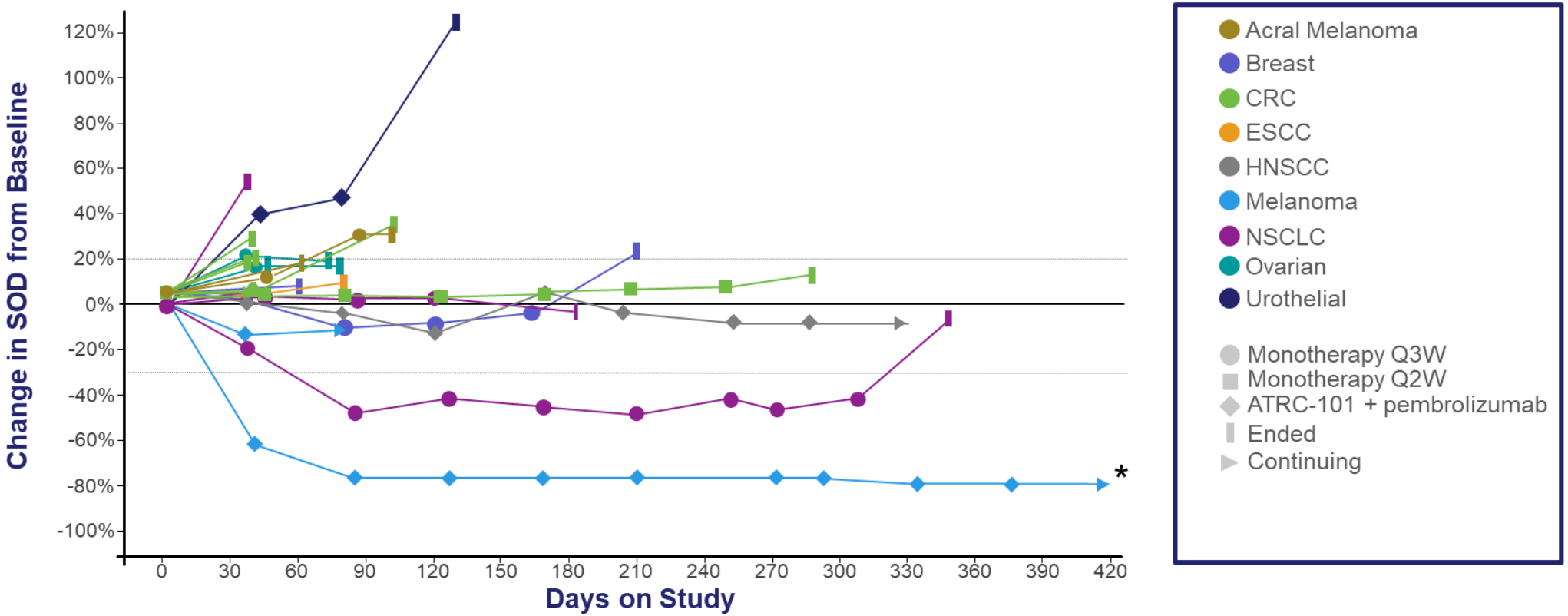
*Lymph nodes deemed non-pathologic (<10 mm) and considered a complete response.
Q2W, every 2 weeks; Q3W, every 3 weeks; RECIST, Response Evaluation Criteria in Solid Tumors; SOD, sum of diameters of target lesions.

Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Anti-tumor Activity Observed in Multiple Tumor Types

Change in SOD over time and durability of responses in RECIST v1.1 and target positive set (n = 23)



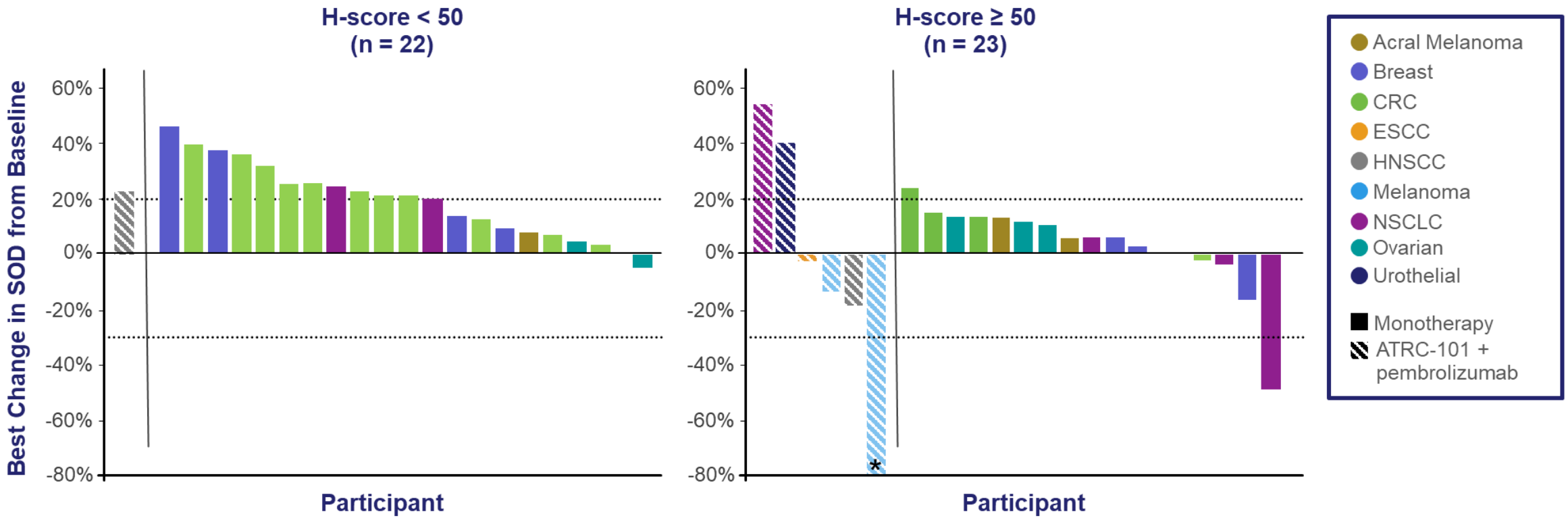
*Lymph nodes deemed non-pathologic (<10 mm) and considered a complete response.
CRC, colorectal cancer; ESCC, esophageal squamous cell carcinoma; HNSCC, head and neck squamous cell carcinoma; NSCLC, non-small cell lung cancer; Q2W, every 2 weeks; Q3W, every 3 weeks; RECIST, Response Evaluation Criteria in Solid Tumors; SOD, sum of diameters of target lesions.

Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Anti-tumor Activity Observed in Multiple Tumor Types

Change in SOD by H-score, cancer type, and treatment
(RECIST v1.1 and H-score set n=45)



*Lymph nodes deemed non-pathologic (<10 mm) and considered a complete response.
CRC, colorectal cancer; ESCC, esophageal squamous cell carcinoma; HNSCC, head and neck squamous cell carcinoma; NSCLC, non-small cell lung cancer; RECIST, Response Evaluation Criteria in Solid Tumors; SOD, sum of diameters of target lesions.

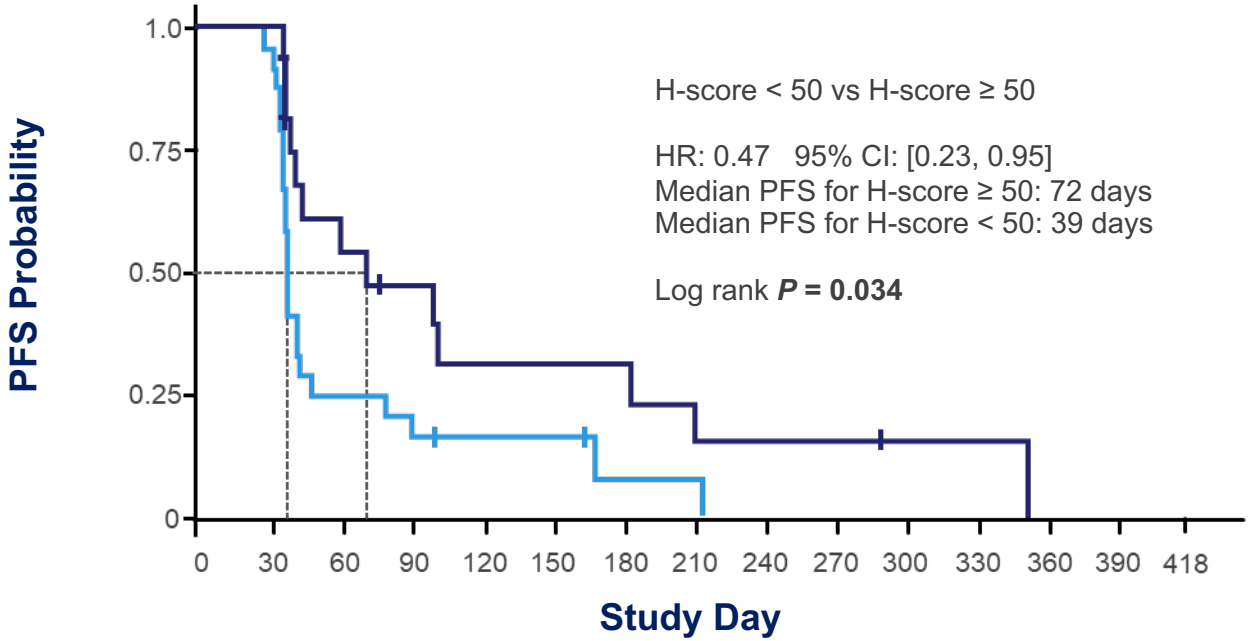
Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

ATRC-101: Longer PFS Associated with Target Expression

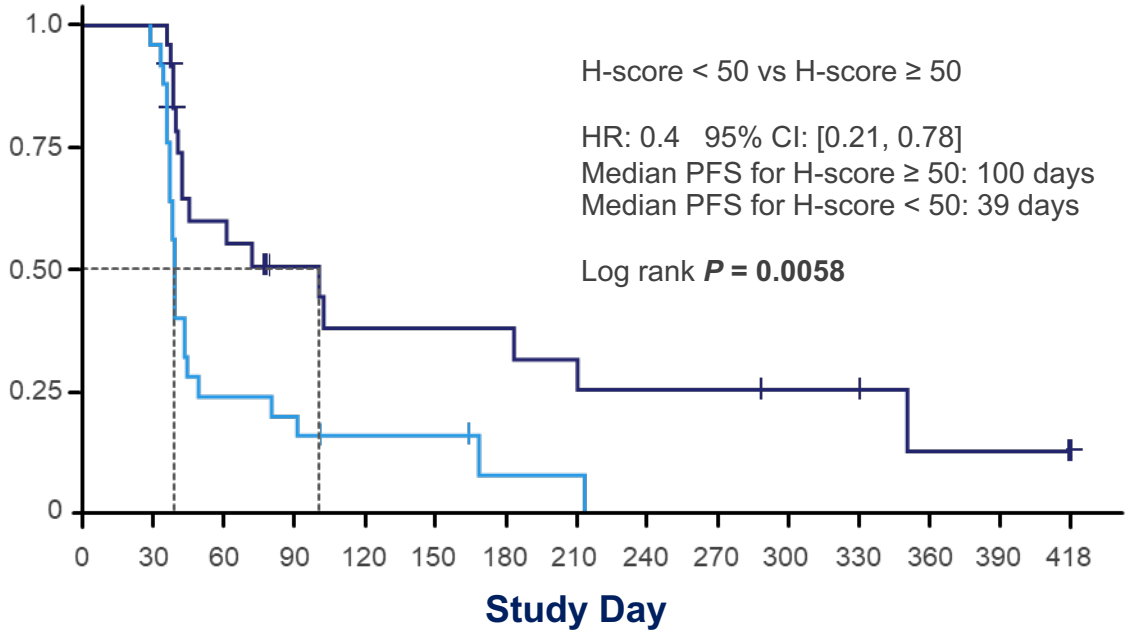
PFS based on H-score in monotherapy subset and overall
(Best overall response and H-score data set)

Monotherapy (n = 41)



H-score < 50	24	23	6	5	3	3	1	1	0	0	0	0	0	0	0
H-score ≥ 50	17	17	9	6	4	4	4	3	2	2	1	1	0	0	0

Overall (n = 49)



	25	24	6	5	3	3	1	1	0	0	0	0	0	0	0
	24	24	13	8	6	6	6	5	4	4	3	3	1	1	1

CI, confidence interval; HR, hazard ratio; PFS, progression-free survival.

Data Extracted 17-Feb-2023

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA

Conclusions – Key Takeaways

ATRC-101

Was well tolerated

- No DLTs up to 30 mg/kg dose level and in combination with pembrolizumab
- No treatment discontinuation due to toxicities

Demonstrated durable disease control across a range of tumor types in heavily pretreated subjects and many cases, after failure of prior CPI therapy

Delivered a progression-free survival advantage for patients whose tumor expressed target

ATRC-101 therefore has the potential to

Address unmet needs in multiple indications

- Activity and disease control seen for melanoma, NSCLC, HNSCC, ovarian cancer

Become a component of multiple treatment regimens

- Safety profile makes it possible to explore combinations with established regimens
- Data supports continuing to explore combination therapy with CPI

CPI, checkpoint inhibitor; DLT, dose-limiting toxicity; HNSCC, head and neck squamous cell carcinoma; NSCLC, non-small cell lung cancer.

PRESENTED BY: Bartosz Chmielowski, M.D., Ph.D., Health Sciences Clinical Professor of Medicine, UCLA