PDS Biotechnology

Transforming How the Immune System Targets and Fights Cancer to Promote Survival

Precision Designed Science For Immunotherapy

NASDAQ: PDSB

February 2025

Forward-Looking Statements

This communication contains forward-looking statements (including within the meaning of Section 27E of the United States Securities Exchange Act of 1934, as amended, and Section 27A of the United States Securities Act of 1933, as amended) concerning PDS Biotechnology Corporation (the "Company") and other matters. These statements may discuss goals, intentions and expectations as to future plans, trends, events, results of operations or financial condition, or otherwise, based on current beliefs of the Company's management, as well as assumptions made by, and information currently available to, management. Forward-looking statements generally include statements that are predictive in nature and depend upon or refer to future events or conditions and include words such as "may," "will," "should," "would," "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," "forecast," "guidance", "outlook" and other similar expressions among others. Forward-looking statements are based on current beliefs and assumptions that are subject to risks and uncertainties and are not guarantees of future performance. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: the Company's ability to protect its intellectual property rights; the Company's anticipated capital requirements, including the Company's anticipated cash runway and the Company's current expectations regarding its plans for future equity financings; the Company's dependence on additional financing to fund its operations and complete the development and commercialization of its product candidates, and the risks that raising such additional capital may restrict the Company's operations or require the Company to relinquish rights to the Company's technologies or product candidates; the Company's limited operating history in the Company's current line of business, which makes it difficult to evaluate the Company's prospects, the Company's business plan or the likelihood of the Company's successful implementation of such business plan; the timing for the Company or its partners to initiate the planned clinical trials for Versamune® HPV, PDS01ADC and other Versamune® and Infectimune® based product candidates; the future success of such trials; the successful implementation of the Company's research and development programs and collaborations, including any collaboration studies concerning Versamune® HPV, PDS01ADC and other Versamune® and Infectimune® based product candidates and the Company's interpretation of the results and findings of such programs and collaborations and whether such results are sufficient to support the future success of the Company's product candidates; the success, timing and cost of the Company's ongoing clinical trials and anticipated clinical trials for the Company's current product candidates, including statements regarding the timing of initiation, pace of enrollment and completion of the trials (including the Company's ability to fully fund its disclosed clinical trials, which assumes no material changes to the Company's currently projected expenses), futility analyses, presentations at conferences and data reported in an abstract, and receipt of interim or preliminary results (including, without limitation, any preclinical results or data), which are not necessarily indicative of the final results of the Company's ongoing clinical trials; any Company statements about its understanding of product candidates mechanisms of action and interpretation of preclinical and early clinical results from its clinical development programs and any collaboration studies; to aid in the development of the Versamune® platform; and other factors, including legislative, regulatory, political and economic developments not within the Company's control. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors included in the Company's annual, quarterly and periodic reports filed with the Securities and Exchange Commission ("SEC"). The forward-looking statements are made only as of the date of this presentation and, except as required by applicable law, the Company undertakes no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise. This presentation shall not constitute an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of any securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

Late-Stage Head and Neck Cancer* Program as Value Catalyst

High-Value Lead Program With Strong KOL support

- Versamune® HPV is an HPV16-specific T cell stimulating immunotherapy
- Lead program addressing HPV16-positive recurrent and/or metastatic HNSCC
- $4-5B US & EU market potential for HPV16-positive HNSCC

Growing Unmet Need

- Rapidly growing HPV16-positive indication 50%+ of HNSCC in US/EU
- Unique cancer with atypical presentation and physiology
- No current approved therapy for large HPV16-positive population

Phase 3 HNSCC Trial

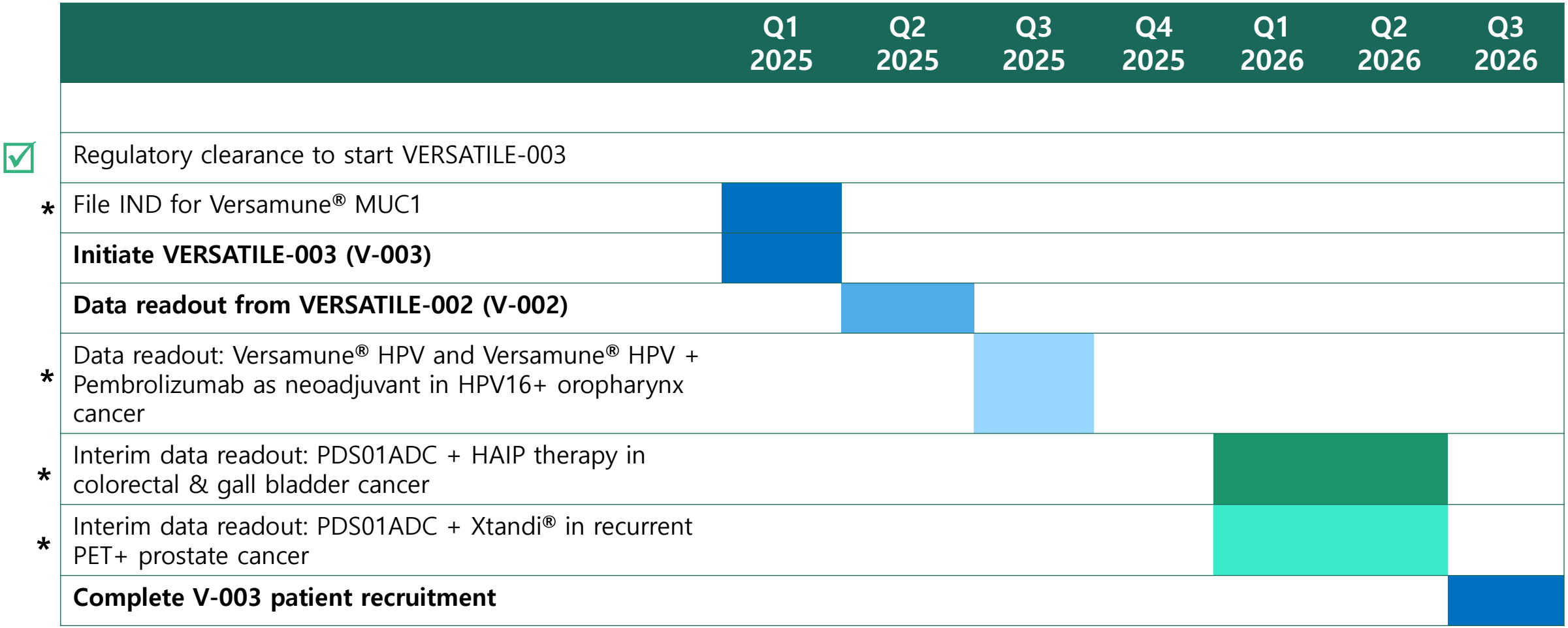
- Phase 2 trial resulted in FDA Fast Track designation in R/M HNSCC
- Alignment with FDA on phase 3 trial design
- Trial planned to start in Q1 2025

Potential for Market Leadership Position

- Competing EGFR antibody approaches have reported weaker clinical responses in HPV-positive HNSCC compared to HPV-negative HNSCC
- Strong phase 2 trial safety, response and survival results warrant Phase 3 study
- Versamune® HPV is most clinically advanced HPV16 targeted program

*Head and neck squamous cell carcinoma (HNSCC)

Upcoming Milestones 2025-2026 (Phase 2 and Phase 3 Trials)



* Investigator initiated and funded trials. Trials not run by PDS Biotech; ☑ Completed

HPV-positive and HPV-negative HNSCC: Two Distinct Diseases[1-3]

Keratinizing squamous cell carcinoma features and frequent **TP53** mutations

Non-keratinizing, basaloid histopathological features and over-expression of **p16**

HPV-negative HNSCC

Alcohol & tobacco
Causes mutations in oncogenic river genes

High rates of disease recurrence or metastasis

HPV-positive HNSCC

High-risk HPV
Viral oncoproteins E6/E7 degrade tumor suppressor proteins

High expression of viral genes & T cell presence in tumors

Treatable with chemotherapy/ radiation

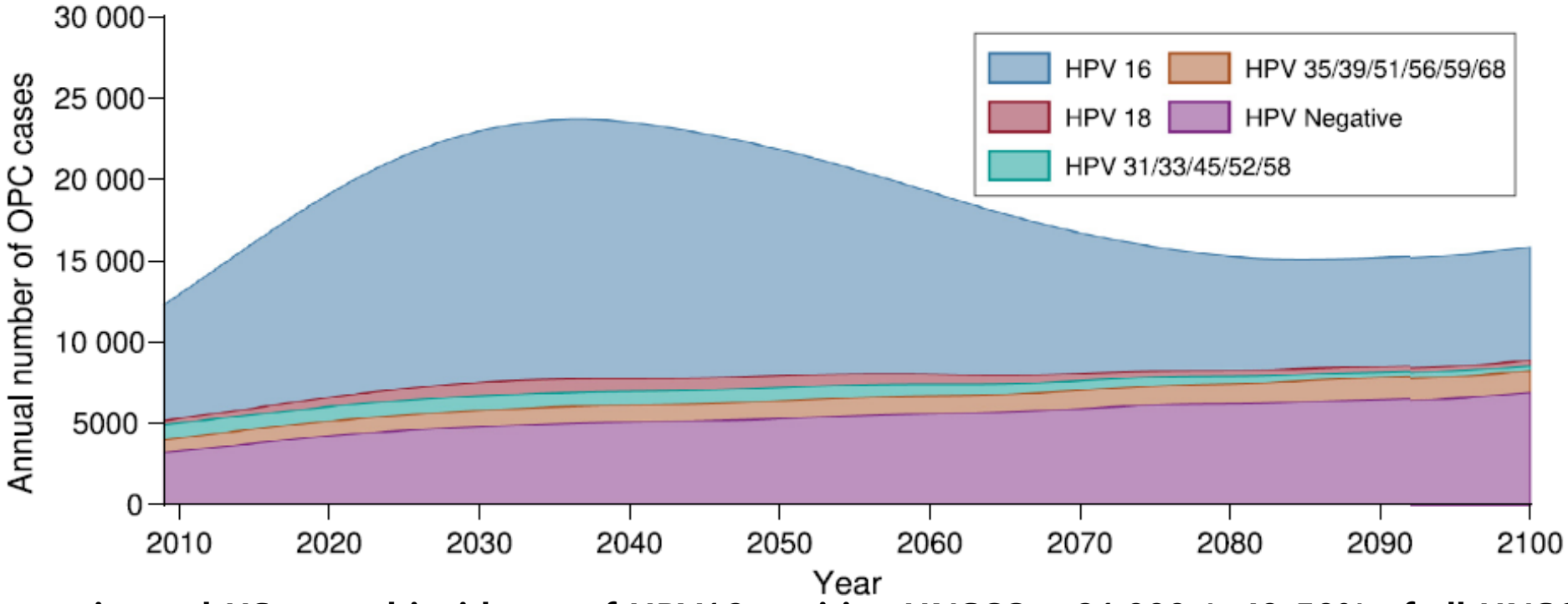
Low expression of viral genes & limited T cell infiltration

Difficult to Treat
Disease recurrence or metastasis

Most effective therapy will target E6 & E7 proteins

Significant and Growing Market Potential in HPV16-positive HNSCC

HPV16 to Drive Increased HNSCC Incidence Rates & Exceed 50% of all HNSCC by mid 2030s[4]



- Current estimated US annual incidence of HPV16-positive HNSCC ~ 21,000 (~40-50% of all HNSCC)[5-8]
- Incidence of locally advanced, unresectable, metastatic HPV16-positive HNSCC = 13,600[7-9]
- Versamune® HPV US market potential = $2-3B[10]
- EU HPV+ HNSCC incidence and trends similar to US

Significant Unmet Needs Remain in Recurrent or Metastatic (R/M) HNSCC

Survival on Current Therapies: Approx. 12 months (Published Results[12])

	Pembrolizumab (KEYTRUDA®)	Pembrolizumab Plus Chemo	Chemotherapy + EGFR Inhibitor
Objective Response Rate (ORR)	19%	36%	35%
Progression Free Survival (PFS)	3.2 mos	5.0 mos	5.0 mos
Median Overall Survival (OS)	12.3 mos	13.6 mos	10.3 mos
Treatment Related Grade 3+ Toxicities	17%	72%	69%

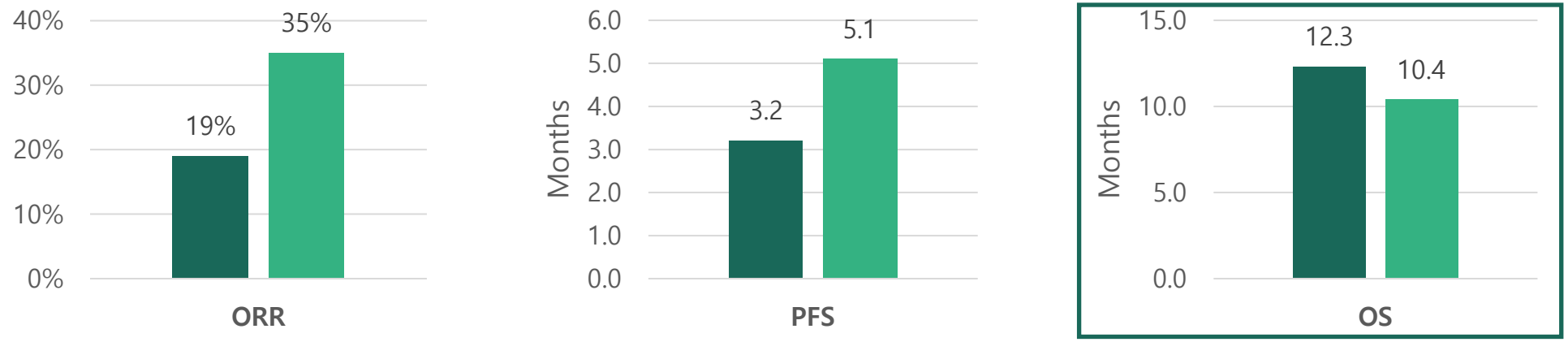
Oncologist[10] – Stated Unmet Medical Needs in HNSCC

- **HPV-Specificity:** Need targeted treatment option to address the growing population of HPV16-positive HNSCC and improve outcomes
- **Improved Survival:** Need novel MOA that provides enhanced survival
- **Improved Durability:** Need novel MOA that is clinically effective in broad patient population and provides more durable (long-term) responses.
- **Improved Safety:** Need safe treatments that may be used with or in place of current standard of care and chemotherapy

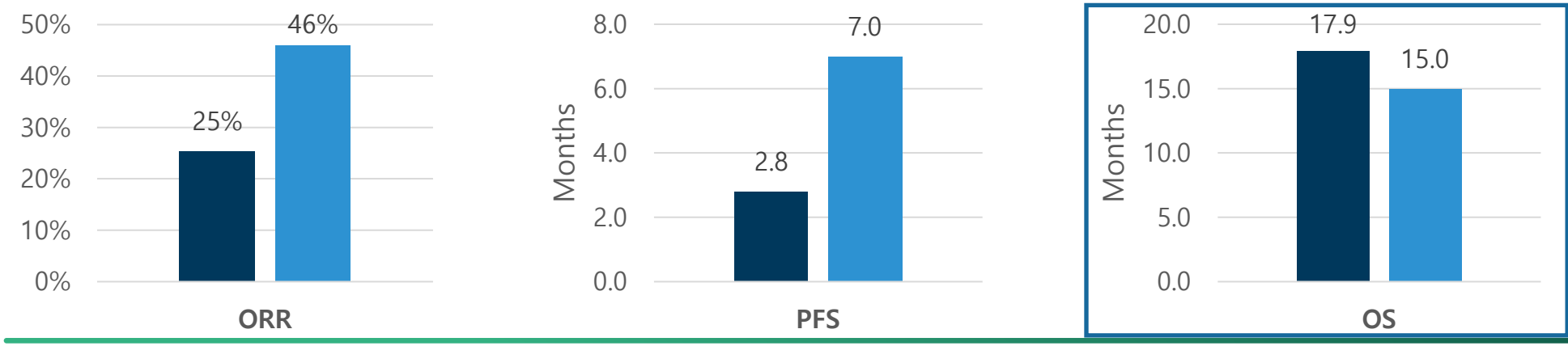
FDA Views Overall Survival (OS) as Primary Endpoint for Approval in R/M HNSCC

Combination Drug Candidates Have Not Resulted in Improved (OS) over Pembrolizumab

KEYNOTE-048[12]



LEAP-010[14]



ORR = Objective Response Rate; PFS = Progression Free Survival; OS = Overall Survival

VERSATILE-002: A Global Phase 2 Study of Versamune® HPV and Pembrolizumab in Subjects with HPV16-positive R/M HNSCC

Study Evaluating Effects of Versamune® HPV Attributes on Clinical Responses

Partner

MERCK

Fast Track Designation

Study Treatment

Versamune® HPV

5 doses: 1 mL **Subcutaneous injection** at Cycles 1, 2, 3, 4 & 12)

Pembrolizumab (KEYTRUDA®)

200mg IV Q3W up to 35 Cycles (2 years)

Key Entry Criteria for ICI Naïve Subjects

R/M HNSCC

≥18 years of age

HPV16-positive tumor

Combined positive score (CPS) ≥1

Study Design

Open-label, non-randomized, adaptive design study

31 sites in US and EU

2 Cohorts:
- ICI Naïve
- ICI Resistant

Enrollment complete

Endpoints

Primary:

Best overall response (BOR) of confirmed complete response (CR) or confirmed partial response (PR) per RECIST v1.1

Key Secondary:

Overall Survival (OS)

Progression Free Survival (PFS) per RECIST v1.1

Safety and tolerability

VERSATILE-002: Most Patients Had Recurrent Disease and Prior Treatment

Key Demographics and Treatment Exposure[15]

Demographic/Baseline Characteristic	Efficacy Population (N=53)
Age, Median (Min, Max)	**64.0 (46, 83)**
Sex, n (%)	
Male	**49 (92.5)**
Female	**4 (7.5)**
Race, n (%)	
Asian	**1 (1.9)**
Black or African American	**1 (1.9)**
White	**50 (94.3)**
Other	**1 (1.9)**
ECOG, n (%)	
0	**30 (56.6)**
1	**23 (43.4)**
CPS, n (%)	
1–19	**32 (60.4)**
≥20	**21 (39.6)**
Prior Therapy*, n (%)	
No Prior Therapy	**10 (18.9)**
Chemotherapy Only	**3 (5.7)**
Chemotherapy + Radiation Therapy	**40 (75.5)**

Lower pembrolizumab responses

81.2% with prior treatment

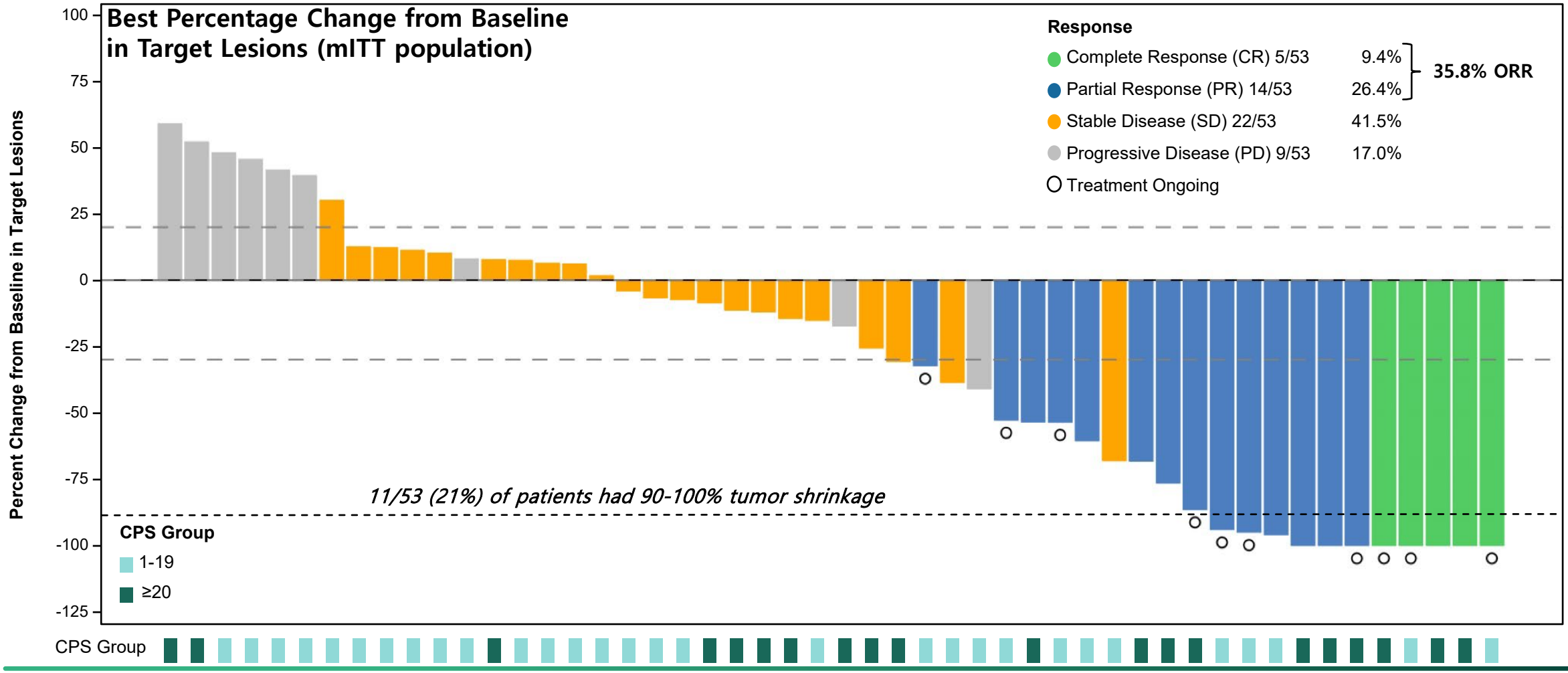
Historical Responses

- Published data reports lower ORR, PFS and OS with pembrolizumab in patients with CPS 1-19 vs. CPS ≥ 20[16]
- Published data reports lower responses in patients with recurrent disease

No controlled or comparative studies have been conducted between checkpoint inhibitors and Versamune® HPV

Deep Tumor Regression Independent of Patient CPS Score

Confirmed Disease Control Rate of 77.4%[15]

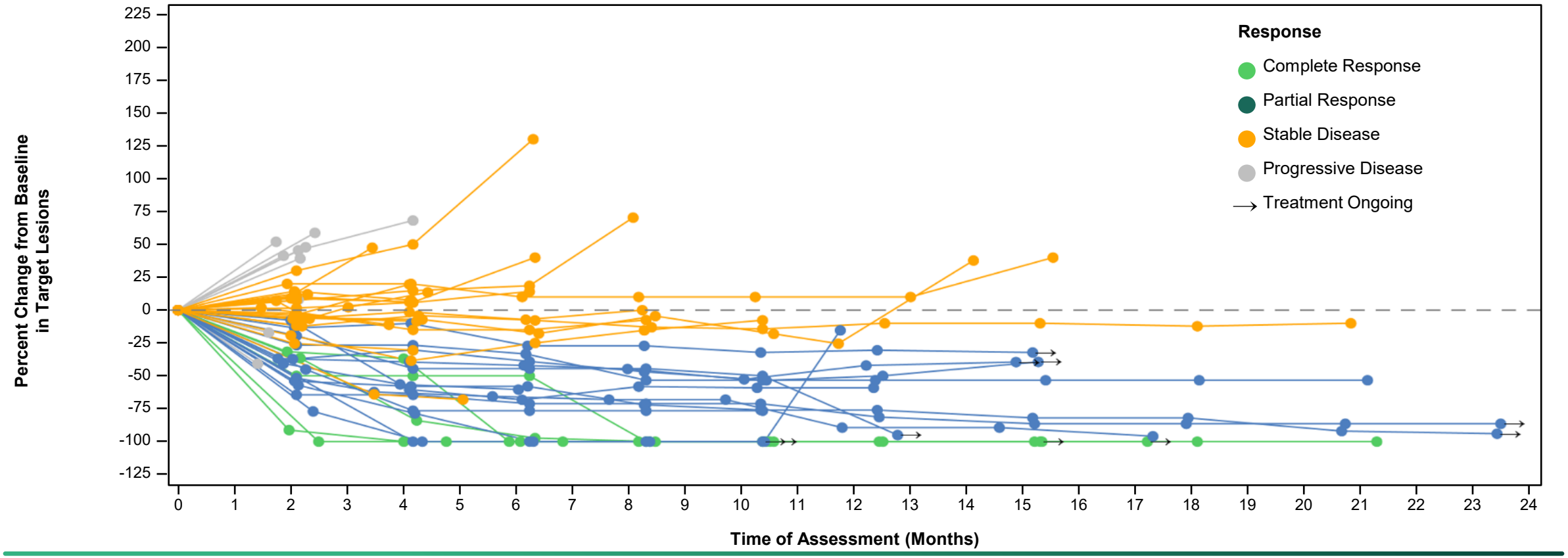


Confirmed Objective Response Rate (ORR) Based on Investigator Assessment Per RECIST v1.1

Extended Disease Control in Majority of Patients[15]

Spider plot: Sustained CR, PR, and SD responses. Median Duration of Response is 21.8 months

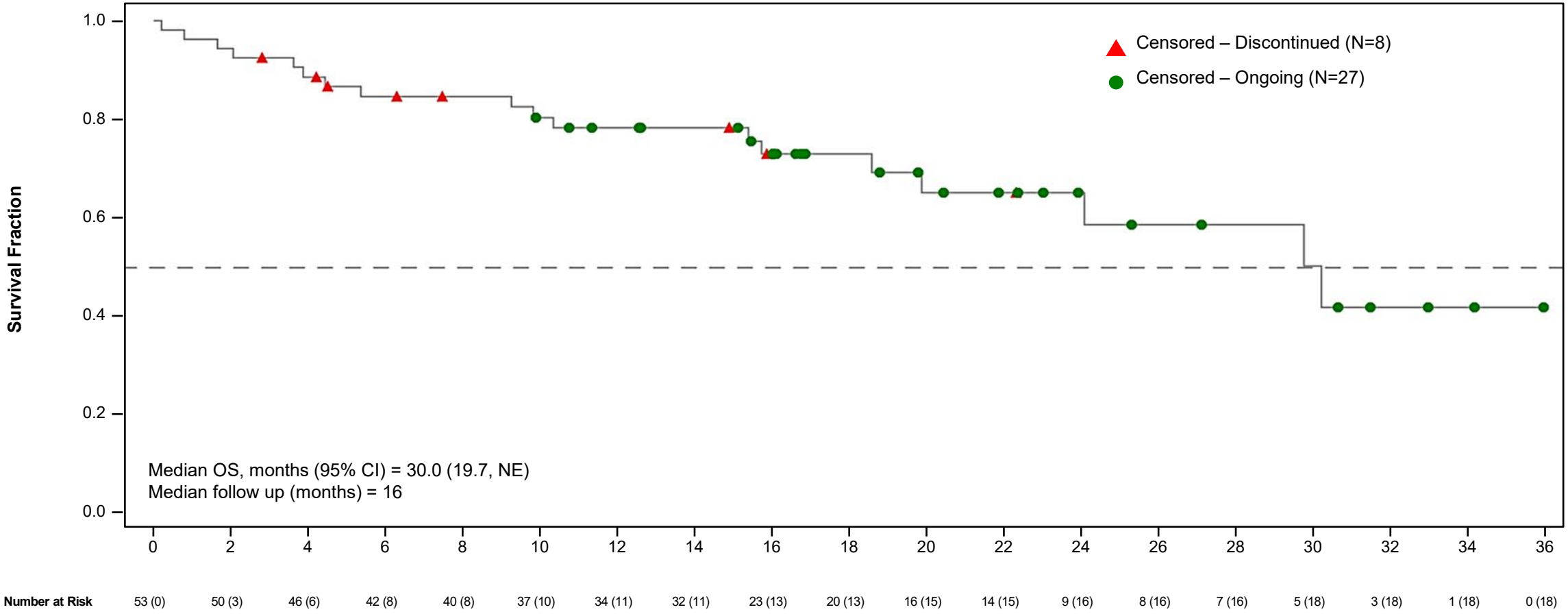
Best Percentage Change from Baseline in Target Lesions



Based on Investigator Assessment Per RECIST v1.1

Median Overall Survival of 30 Months[15]

Multiple Patients Approaching 3 Years of Survival



Discontinued: N=2 Lost to follow up; N=6 withdrawn consent; Ongoing: Patients ongoing and awaiting next clinical assessment

Versamune® HPV plus Pembrolizumab Appears to be well Tolerated[17]

8/87 (9%) Patients had a Grade 3 TRAE*; 1/87 (1%) had a Grade 4 TRAE**

TRAEs by Grade	n (%)
Any Combination TRAE	76 (87.4)
Grade 1	40 (46.0)
Grade 2	26 (29.9)
Grade 3	8 (9.2)
Grade 4	1 (1.1)
Grade 5	0

Non-Injection Site TRAEs ≥ 5%	n (%)
Fatigue	30 (34.5)
Headache	13 (14.9)
Diarrhea	10 (11.5)
Pruritis	9 (10.3)
Rash	7 (8.0)
Malaise	6 (6.9)
Pyrexia	6 (6.9)
Pain	5 (5.7)
Cough	5 (5.7)

Protocol stipulates 5 subcutaneous injections of Versamune® HPV: 4 injections over 2 months and a final injection after an additional 6 months

*Grade 3 Combination-TRAE were: Fatigue (2), Rash, Alanine aminotransferase increased, Blood alkaline phosphatase increased, Lymphocyte count decreased, Autoimmune colitis, Colitis, Headache, Acute kidney injury, Hyponatremia, Hyperglycemia,
**Grade 4 Combination-TRAE: encephalitis (case recorded approx. one year after last Versamune® HPV dose)

* TRAE = Treatment Related Adverse Event

VERSATILE-002 Summary of Results[15]

Strong Clinical Responses and Patient Survival Warrant Registrational Trial

	ESMO 2024*		Published Results*		
	VERSATILE-002		KEYNOTE-048		LEAP-010
	CPS ≥ 1	CPS ≥ 20	CPS ≥ 1	CPS ≥ 20	CPS ≥ 1
Objective Response Rate (ORR)	36%	48%	19%	23%	25%
Median Overall Survival (mOS)	30.0 months	30.0 months	12.3 months	14.9 months	17.9 months

- Study has met primary ORR endpoint by RECIST v1.1 in ICI naïve patients
- Disease control rate (DCR) for CPS ≥ 1 was 77.4%
- 21% of patients had 90-100% tumor shrinkage
- The combination treatment was well tolerated

* Not a head-to-head comparison. No controlled or comparative studies have been conducted between Versamune® HPV and pembrolizumab

Durable Anti-Tumor Immune Response Observed

Responses Improved with Time; Sustained Median OS of 30 Months

Time

	Objective Response Rate (ORR)	Patients with Tumor Shrinkage of 90-100%	Patients with Complete Responses (CR)	Disease Control Rate (DCR)	Median Overall Survival
May 2023 (N=34)[15]	26%	6%	3%	70%	Not Estimable
November 2023 (N=53)[16]	34%	21%	7.5%	77%	30 months
May 2024 (N=53)[12]	36%	21%	9.4%	77%	30 months

By promoting potent killer T cells and memory T cells, Versamune® HPV is designed to enable a durable attack on the cancer, leading to potential tumor shrinkage and survival

Corroborating Biomarker/Clinical Support for Versamune® HPV

IMMUNOCERV Trial Provides Compelling Survival and PFS Results

Results for IMMUNOCERV Phase 2 Trial Results and Published KEYNOTE A18 Results

	IMMUNOCERV Chemoradiotherapy + Versamune® HPV	Published KEYNOTE-A18 Chemoradiotherapy + Pembrolizumab (KEYTRUDA®)
36-Month Survival Rate	Number of Versamune® HPV doses • 5 doses: 100% (N=8) • ≥2 doses: 84.4% (N=17)	82.6%
36-Month Progression Free Survival (PFS) Rate	Number of Versamune® HPV doses • 5 doses: 100% (N=8) • ≥2 doses: 74.9% (N=17)	69.3%
Complete Response (Metabolic)	88%	N/A

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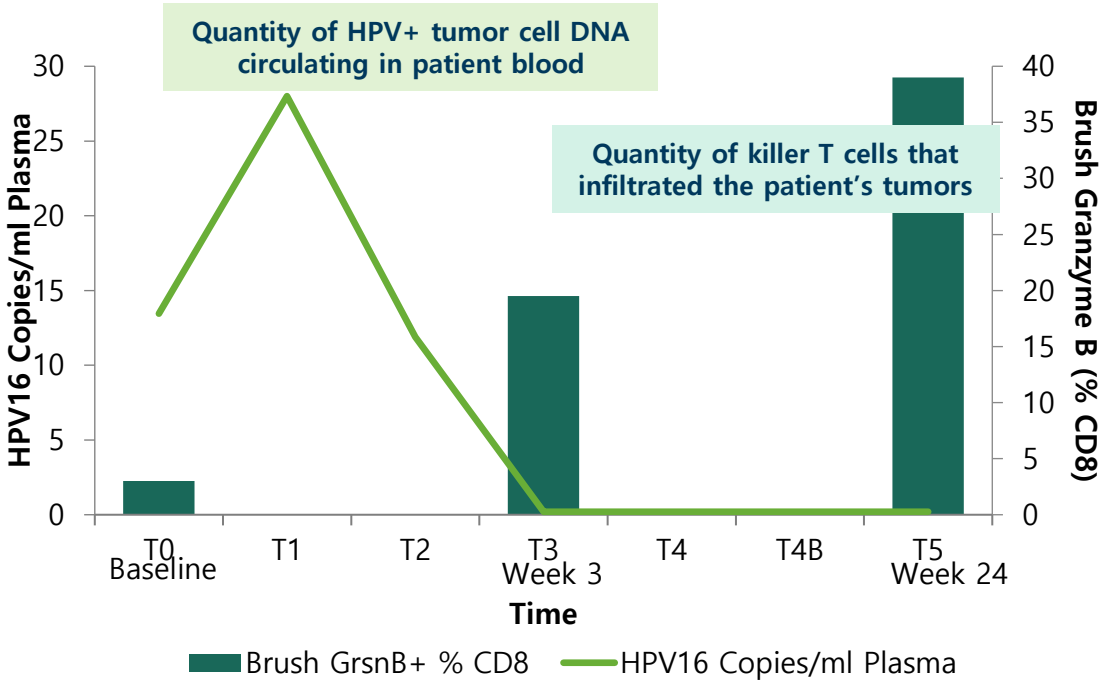
Corroborating Biomarker/Clinical Support for Versamune® HPV

Elimination of Micro-Metastatic Tumors by Circulating Tumor DNA (ctDNA) Analysis[25]

Clinical: CD8 T Cell Accumulation in Tumor Correlated with Elimination of Circulating Cancer Cells (ctDNA)[17]

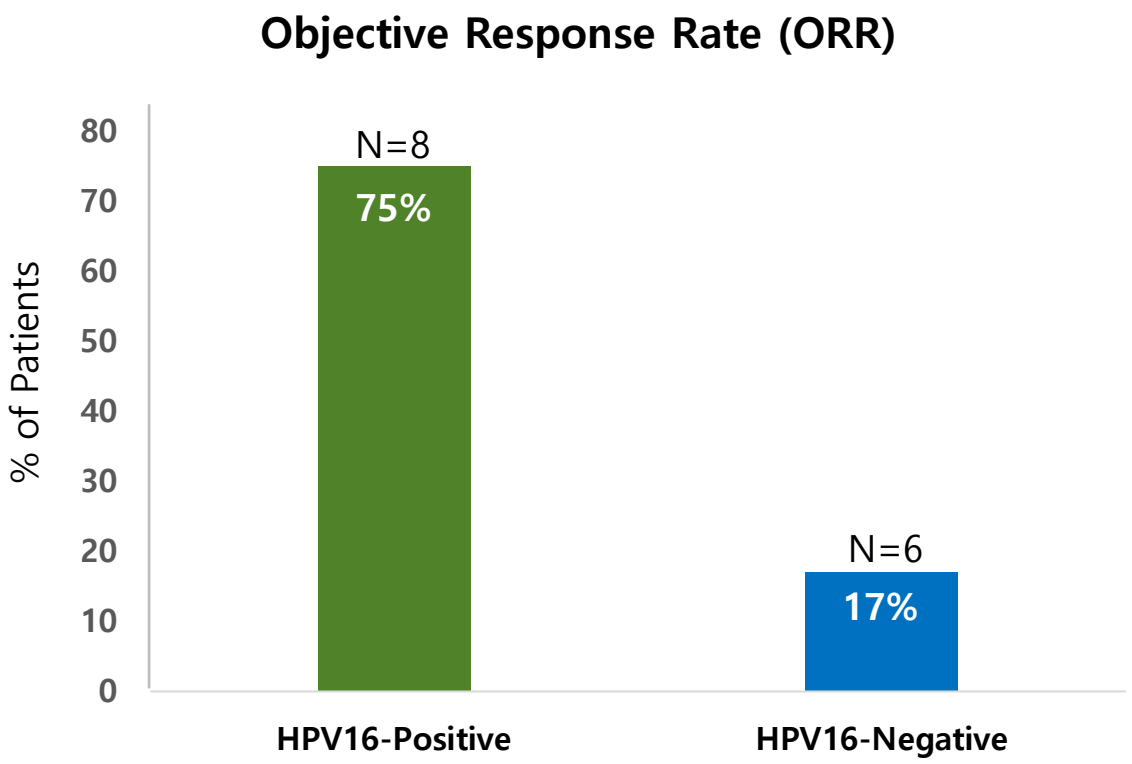
Representative Plot from a Single Versamune® HPV Treated Patient

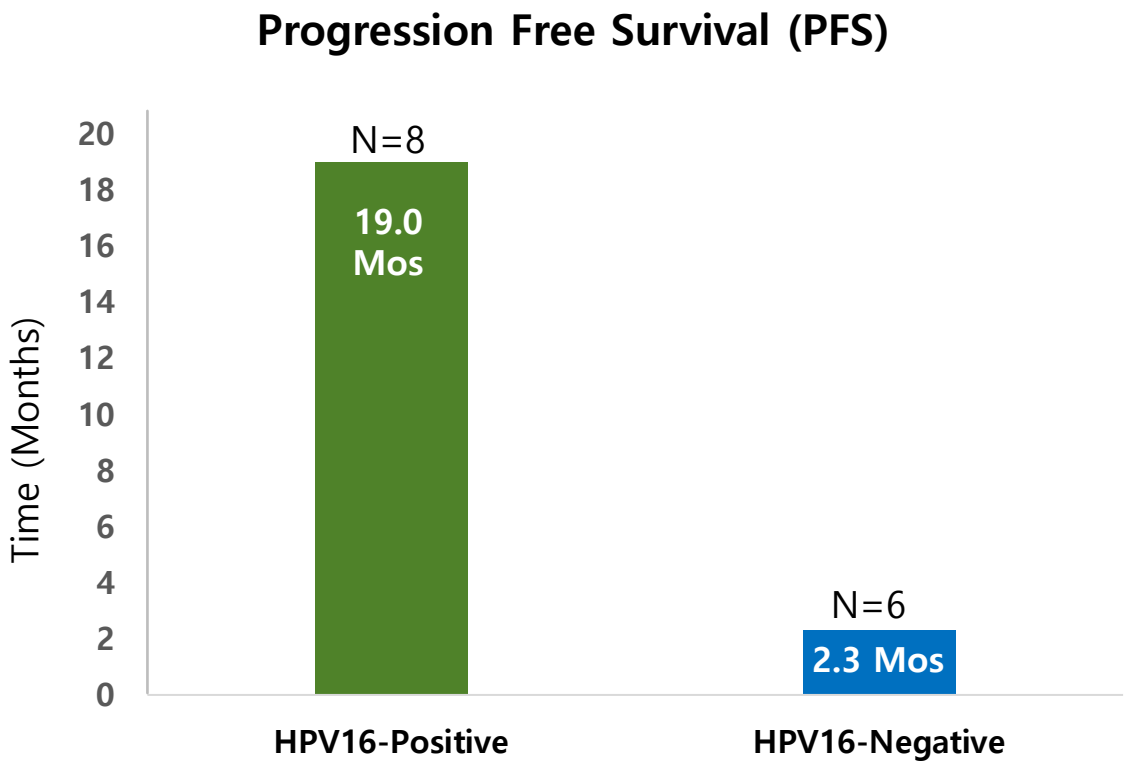


- Study in locally advanced cervical cancer patients treated with Versamune® HPV and chemoradiotherapy
- 91.7% clearance of ctDNA at Week 5 vs 53.1% clearance with CRT alone[18]
- 5/5 tested HPV16-positive patients had undetectable ctDNA at 3-4 months[22]
- Undetectable ctDNA resulted in superior 2-year recurrence free survival (RFS) of 93% vs 30%[22]

Corroborating Biomarker/Clinical Support for Versamune® HPV

Superior Survival and Response in HPV16-positive vs HPV16-negative R/M Cancers[26]

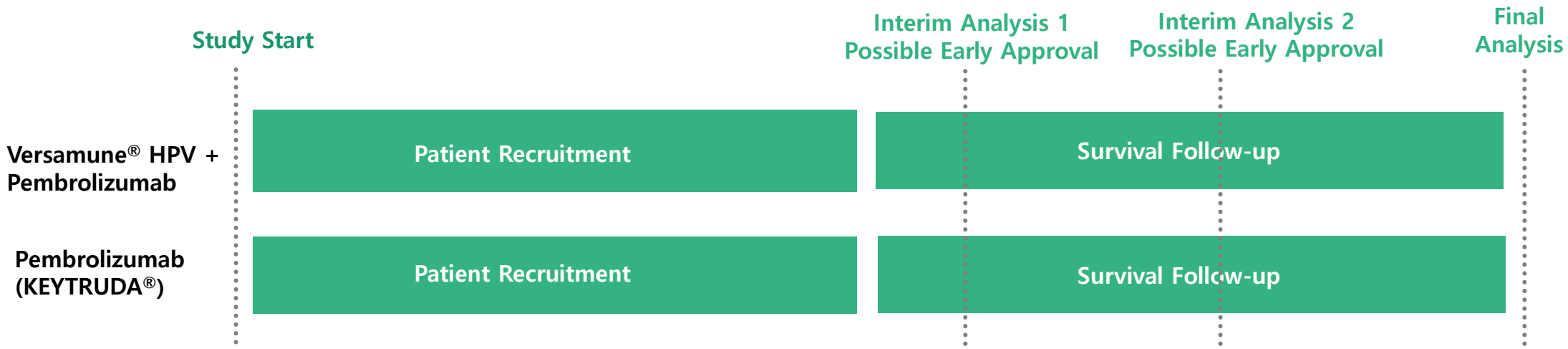




Study performed by National Cancer Institute

VERSATILE-003 First Line Recurrent/Metastatic HNSCC Trial Design

Aligned with FDA on Study Design and Initiation in Q1 2025



Randomized controlled trial
- N = 351
- 2:1 randomization

Primary Endpoint
- Overall Survival (OS)

Secondary Endpoints
- Objective Response Rate (ORR)
- Disease Control Rate (DCR)
- Duration of Response (DoR)
- Progression Free Survival (PFS)

Key Eligibility Criteria
- HPV16-positive HNSCC
- CPS ≥1
- ≥18 years of age
- ECOG 0-1

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*Head and neck squamous cell carcinoma (HNSCC)

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Thank You

NASDAQ: PDSB

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