

Forward-Looking Statements

Certain information in this presentation may include forward-looking statements (including within the meaning of Section 21E 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," "quidance", "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 PDS0101, PDS0203 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 PDS0101, PDS0203 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 our 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; the success of the Company's license agreements, including the potential for the clinical and nonclinical data available under the Company's exclusive license agreement with Merck KGaA 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, including unforeseen circumstances or other disruptions to normal business operations arising from or related to COVID-19. 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 and periodic reports filed with the SEC. The forward-looking statements are made only as of the date of this press release 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.

Versamune[®] is a registered trademark, and Infectimune[™] is a trademark of PDS Biotechnology Corporation KEYTRUDA[®] is a registered trademark of Merck Sharp and Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA Opdivo[®] is a registered trademark of Bristol-Myers Squib Company.

Company Overview

- Clinical-stage Company developing proprietary targeted immunotherapies to treat cancer and infectious disease
- Versamune® based platforms leverage the body's own defense systems to induce tumor-specific killer T cells to overcome immune suppression and attack cancer
- Infectimune™ activates the immune system to induce pathogenspecific T cells and antibodies to protect against infectious disease
- PDS0101 granted FDA Fast Track designation. Four Phase 2 clinical trials addressing multiple HPV-positive cancers. Safety and efficacy data have been reported in over 100 and 60 patients, respectively
- Exclusive global license with Merck KGaA, Darmstadt, Germany for tumor targeting IL-12 fusion protein (PDS0301)
- Clinical partnerships with Merck, MD Anderson Cancer Center, National Cancer Institute and Mayo Clinic
- Cash as of September 30, 2022 **\$71.6M** cash runway to Q2 2024 with a potential registrational trial in 2023

Top Line Phase 2 Clinical Data

Versamune® is designed to promote CD8+ killer T cell responses in vivo

Versamune® Technology Platform: <i>In-vivo</i> tumor-speci	ific killer (CD8+) T cell indu	ction
HPV-positive head and neck cancer: PDS0101 + KEYTRUDA® (standard of care) in patients whose cancer has returned or spread after treatment	41% (7/17) Objective response rate (ORR) ¹	89% survival at 9 months
Cervical cancer: PDS0101 + Chemoradiotherapy (standard of care) in patients with large localized tumors >5cm in the cervix and lymph nodes	100% (9/9) >60% shrinkage at midpoint 89% (8/9) complete response (CR)	0% deaths from cancer or treatment at 1 year
Versamune® IL-12 Technology Platform: Overcomes cand	cer-induced immune supp	ression
HPV-Associated cancers: PDS0101 + NHS-IL12 + Checkpoint inhibitor in patients who have <u>failed all treatment options</u> including checkpoint inhibitors (median survival reported 3-4 months)	63% (5/8) ORR in optimal dose group ²	21-month OS (all dose groups) ²
HPV-Associated cancers: PDS0101 + NHS-IL12 + Checkpoint inhibitor in patients whose cancer has returned or spread after treatment	88% (7/8) ORR ³ 38% (3/8) CR	75% (6/8) survival at 27 months



^{19%} response rate with Keytruda monotherapy reported in KEYNOTE-048 study (CPS >1)

² Objective response rates in CPI refractory cancer reported to be <10%, and historical median survival is 3-4 months ³Obective response rates in HPV-positive cancer with pembrolizumab and nivolumab is <25% and overall survival of <12 months

PDS0101: Lead Asset

Designed to treat human papillomavirus (HPV16)-positive cancers

\$6B Market Opportunity¹

More than <u>46,000</u>² patients were estimated to have been diagnosed last year with HPV-associated cancers in the US^{1,2}

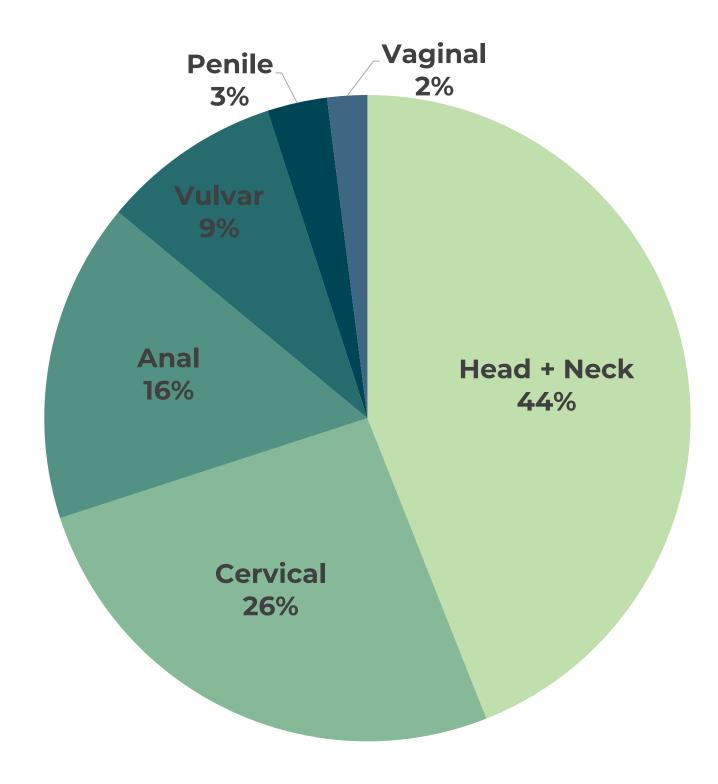
HPV vaccination is <u>not</u> expected to impact the rate of HPV-related cancer incidence for decades³

Existing immunotherapies cost \$150,000+ annually per patient¹

¹Company estimates based on CDC data. Assessments have not been adjusted to reflect HPV16-expression

PDS Biotechnology

US HPV-associated cancer incidence²



²CDC website

³ Projected Association of Human Papillomavirus Vaccination with Oropharynx Cancer in the US 2020-2045, JAMA Oncology, September 2021



Versamune® based Immunotherapies

Designed to address limitations of current immunotherapy

PDS Biotech believes that there are 2 key obstacles that limit broad efficacy of immunotherapy in the treatment of cancer

- Limited ability to induce the type of immune response that promotes the production of active tumor-targeting killer T cells within the patient's body.
- Limited ability to overcome tumor's ability to evade detection by the immune system. FDA approved checkpoint inhibitors, such as KEYTRUDA®, block immune checkpoints that some tumors use to evade detection

PDS Biotech's proprietary Versamune® based platforms are specifically designed to address these two limitations of current immunotherapeutic approaches

Phase 2 Clinical Trial: PDS0101 + Chemo-Radiotherapy

Locally advanced cervical cancer: Tumor size > 5cm and/or spread to lymph nodes



FDA approved standard of care: Chemo-radiotherapy (CRT)

Preliminary Results

- Preliminary efficacy data (Society for Immunotherapy of Cancer (SITC) Conference, November 2022):
 - Clinical response with tumor shrinkage of over 60% at 1 month 100% (9/9)
 - Complete response (No evidence of cancer) by day 170 89% (8/9)¹
 - Majority of patients have Stage III and Stage IV cancer
 - 1-year overall survival No patients have died from the cancer or treatment. One patient has died from an unrelated cause/event

¹Residual traces of the cancer were detected in one patient who only received 3 of the schedule 5 doses of PDS0101 ²In agreement with published preclinical findings that Versamune® promotes *in vivo* induction of the more potent, polyfunctional (multi-cytokine inducing) and tumor infiltrating killer T cells – *J. Immunology 2019; 202 (12): 3524-*



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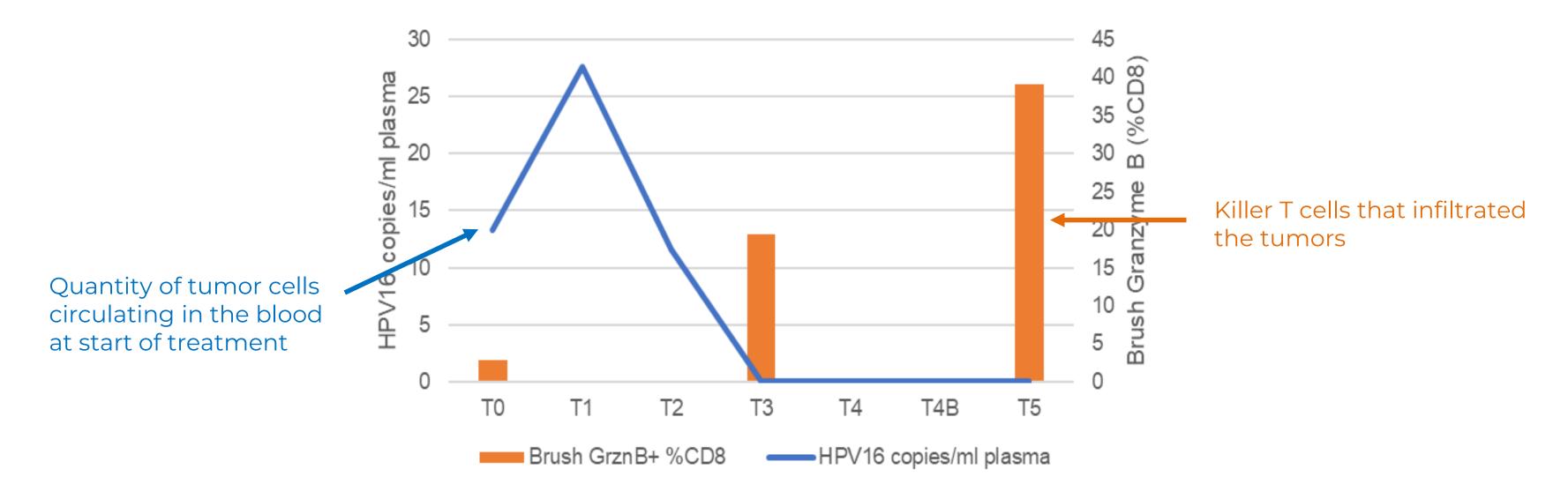
PDS0101 Appears to Induce Clinically Beneficial T Cells

Induction of activated CD8+ killer T cells correlates with elimination of circulating tumor DNA¹

PDS0101 activates the immune system to generate killer T cells (CD8+ T cells that induce granzyme-B)

The killer T cells target, infiltrate and eliminate the cervical cancer tumors

HPV16 tumor DNA in the blood circulation declines by day 170 (T5)





Phase 2 Clinical Trial: PDS0101 + KEYTRUDA®

Potential Treatment for Recurrent or metastatic HPV16-positive head and neck cancer

• Partner: MERCK

• FDA approved standard of care: KEYTRUDA® (Pembrolizumab) owned by Merck^{1,2}

Preliminary Results

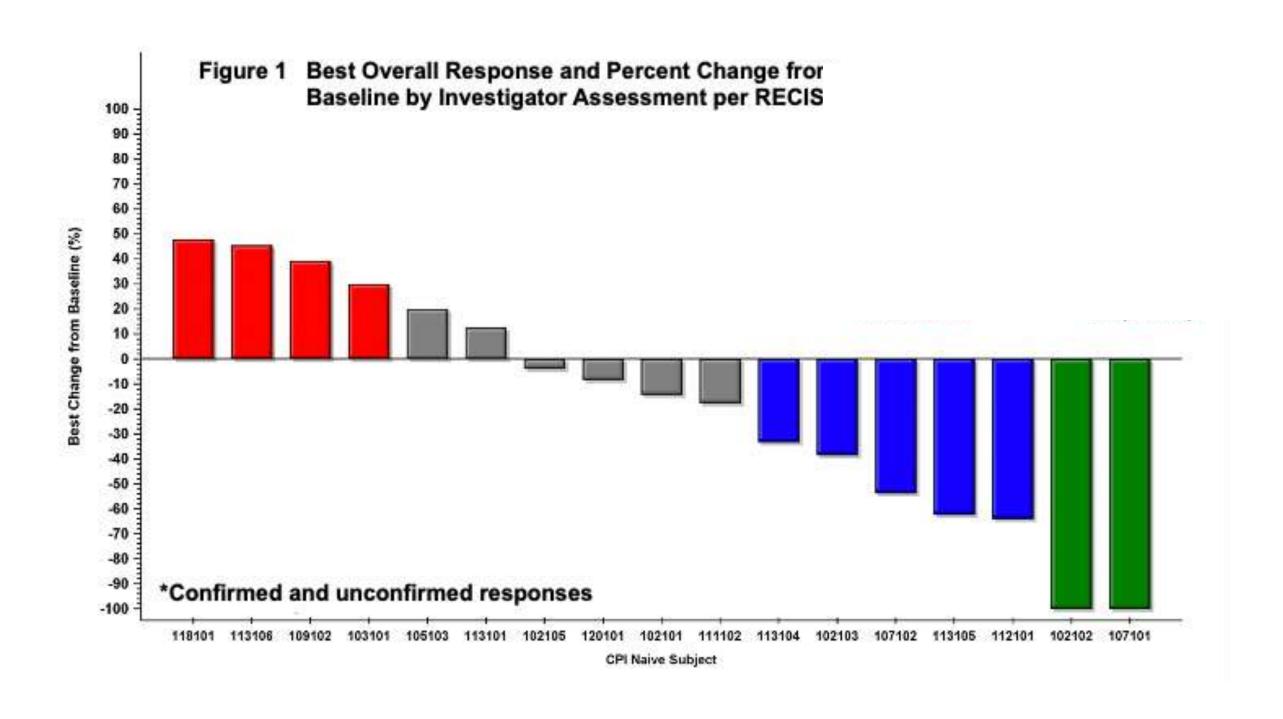
- PDS0101+KEYTRUDA® Fast Track Designation awarded by FDA
- Preparing to progress to registrational trial based on successful FDA meeting
- Preliminary data (American Society of Clinical Oncology (ASCO) Conference, June 2022):
 - Objective response (% of patients with ≥ 30% tumor shrinkage) 7/17 (41.1%)¹
 - Clinical benefit (stable disease + objective response) 13/17 (76.5%)
 - 9-month overall survival rate 87.2%²
- Safety
 - To date, no treatment related grade 3 and higher (serious) adverse events 0/43 (0%)³



Phase 2: PDS0101 + KEYTRUDA®

Company-sponsored trial for the potential treatment of HPV16-positive metastatic/recurrent head and neck cancer (VERSATILE-002)

As of last DMC meeting – to date 43 patients treated had zero grade 3 or higher treatment related adverse events



N=17 Subjects w/Imaging Data

Complete Response (CR)

Partial Response (PR)

Stable Disease (SD)

Progressive Disease (PD)

OR (2 CR + 5PR)	7 (41.2%)
SD (reduction in 4/6)	6 (35.3%)
PD	4 (23.5%)
CR+PR+SD	13 (76.5%)

Phase 2: PDS0101 Monotherapy and in Comb. with KEYTRUDA®

Investigator-led trial evaluating treatments in patients with HPV-associated oropharyngeal cancer with high risk of recurrence

Indication	Treatment of patients with oropharyngeal cancer prior to transoral robotic surgery
Clinical Agents	<u>KEYTRUDA®</u> <u>PDS0101</u> : Versamune® based immunotherapy generating HPV-specific CD8+ and CD4+ T cells
Study Goals	Safety, rate of regression and local control in patients transoral robotic surgery
Timing	Enrollment ongoing
Trial Partner	MAYO CLINIC

If successful, this study could support the expansion of PDS0101 to earlier stage disease





PDS0301 (Tumor Targeted IL-12 Immunotherapy)

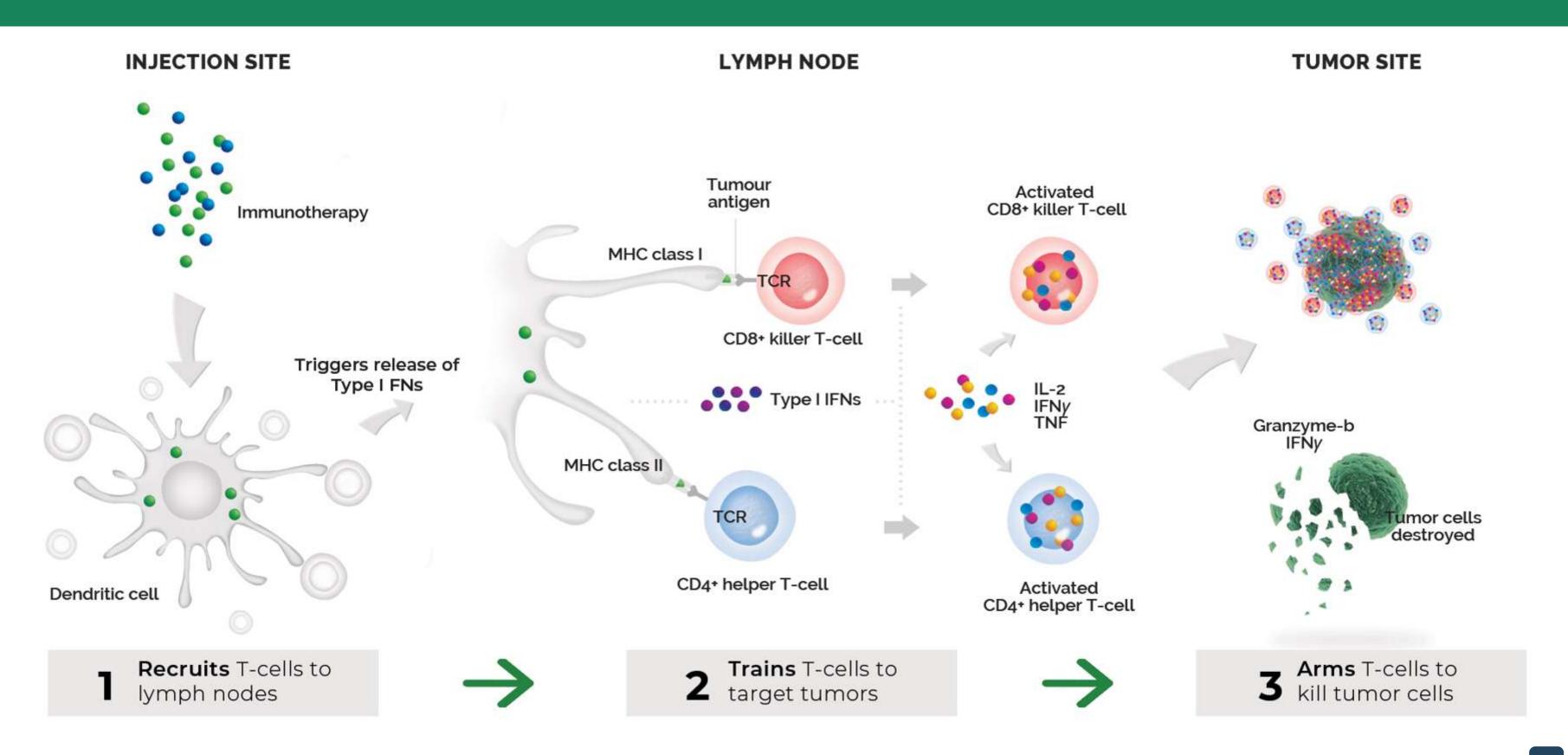
Synergy with Versamune® by promoting T cell infiltration and expansion in the tumor

- IL-12 is a well-documented T cell stimulating cytokine, which can enhance growth and function of T cells
- PDS0301 is a fusion protein of IL-12 that targets the tumor, enhances the infiltration of T cells into the tumor and expansion of the T cells in the tumor
- Favorable preliminary data to date in NCI-led triple combination therapy
- Potential uses with other pipeline candidates
- Exclusive worldwide license from Merck KGaA, Darmstadt, Germany
- \$5 million up front cash payment
- Up to \$11 million in development and regulatory milestone payments and up to \$105 million in commercial milestones for first two indications
- 10% royalty with typical step-downs
- \$5 million in PDSB common stock based on closing price of PDS Biotech's common stock on December 30, 2022



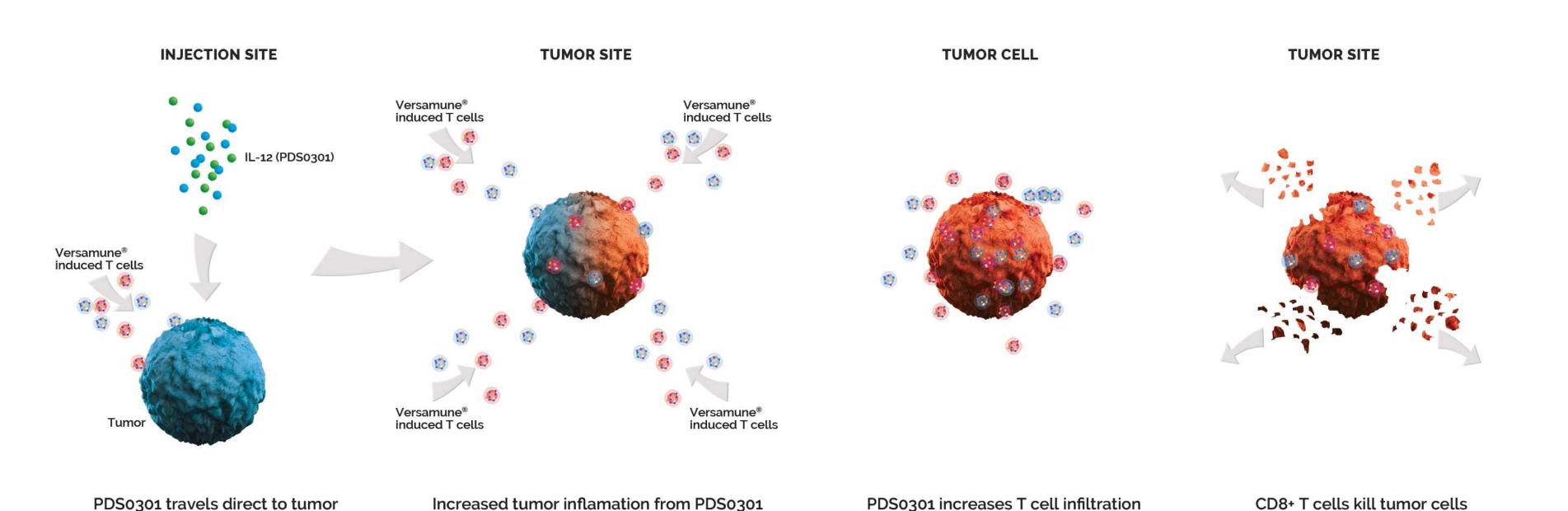
Versamune® Platform

Versamune® generates right type, potency and quantity of killer T cells



Versamune® IL-12 Oncology Platform

PDS0301 targets tumors and enhances T cell infiltration and proliferation in the tumor



and expansion in tumor

Triple Combination: PDS0101 + PDS0301 + Checkpoint Inhibitor

Advanced HPV16-positive cancer patients who are checkpoint inhibitor refractory

Partner:



- Types of cancer included in the trial: Anal, cervical, head and neck, penile, vaginal, vulvar
- FDA approved standard of care: None

Phase 2 Trial Interim Results

- Efficacy data in HPV16-positive patients, (ASCO) June 2021 & June 2022, updated December 2022):
 - Objective response in optimal dose group 5/8 (62.5%)^{1,2}
 - Median overall survival (OS) is 21 months (all dose groups)³
- Immunology/immune correlates, (SITC), November 2022:
 - Greater than two-fold increase in HPV16-specific T cells in the blood of 11/14 (79%) of the evaluated patients
 - Increases in granzyme B (associated with active killer T cells), IFN- γ , TNF- α , etc., signal a pro-inflammatory response and role in overcoming tumor immune suppression

¹Objective response rates with standard of care < 10%

 2 No tumor shrinkage in HPV16-negative subjects (ASCO 2021) – Suggests critical role of PDS0101-induced HPV16-specific CD8+ T cells

³Historical median overall survival in the population is 3-4 months



Triple Combination: PDS0101 + PDS0301 + Checkpoint Inhibitor

Advanced HPV16-positive cancer patients who are checkpoint inhibitor naive

Partner:



- Types of cancer included in the trial: Anal, cervical, head and neck, penile, vaginal, vulvar
- *FDA approved standard of care:* Checkpoint inhibitors e.g. OPDIVO® (nivolumab), KEYTRUDA® (Pembrolizumab)¹ and Checkpoint inhibitors plus chemotherapy²

Phase 2 Trial Interim Results

- Interim data (ASCO), June 2022, (updated September 2022):
 - Objective response 7/8 (87.5%)¹
 - Percent of patients alive at median follow-up of 27 months 6/8 (75.0%)²
- Safety results (Arms 1 & 2)³
 - 24/50 (48%) of patients experienced grade 3 and higher adverse events
 - 2/50 (4%) experienced grade 4 adverse events

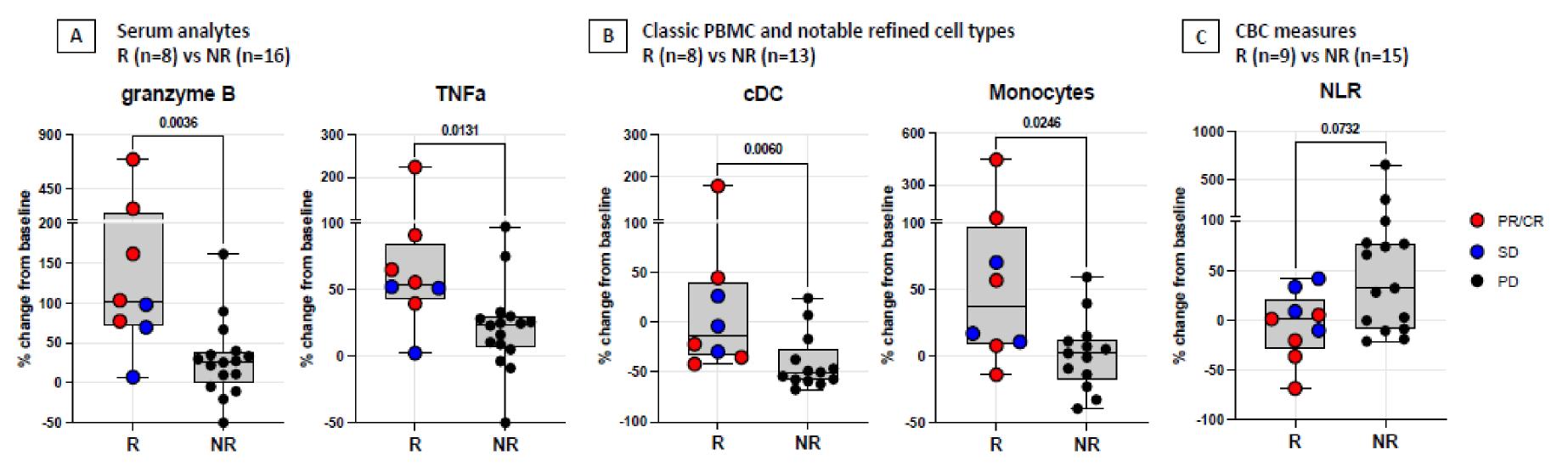


PDS0101 Immune Correlates in Advanced HPV Cancer Patients

Induction of activated HPV16-specific CD8+ killer T cells correlates with clinical efficacy¹

Group	Developed HPV16-Specific T cell Responses
All Patients	11/14 (79%)
Responders (n=5)	5/5 (100%)
Non-Responders (n=9)	6/9 (67%)

- Includes optimal and sub-optimal doses
- ORR with optimal dose combination 63% (5/8)

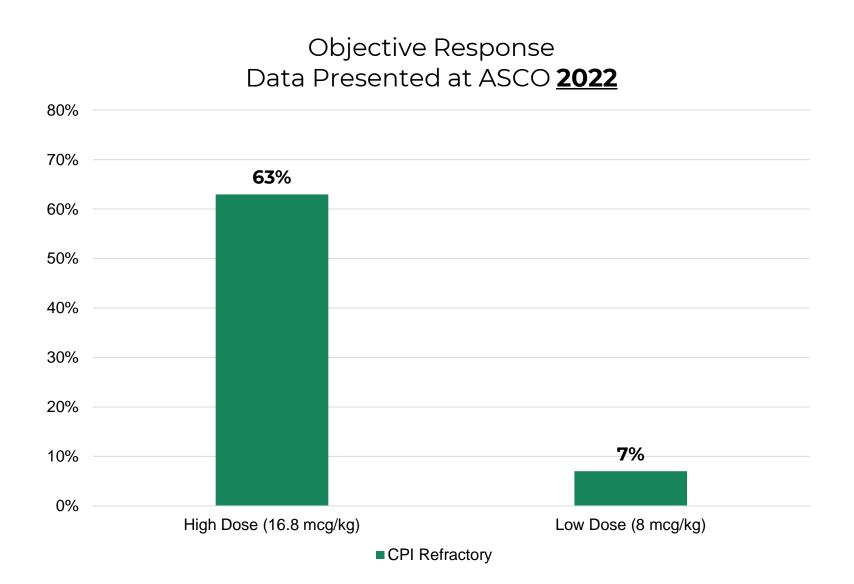




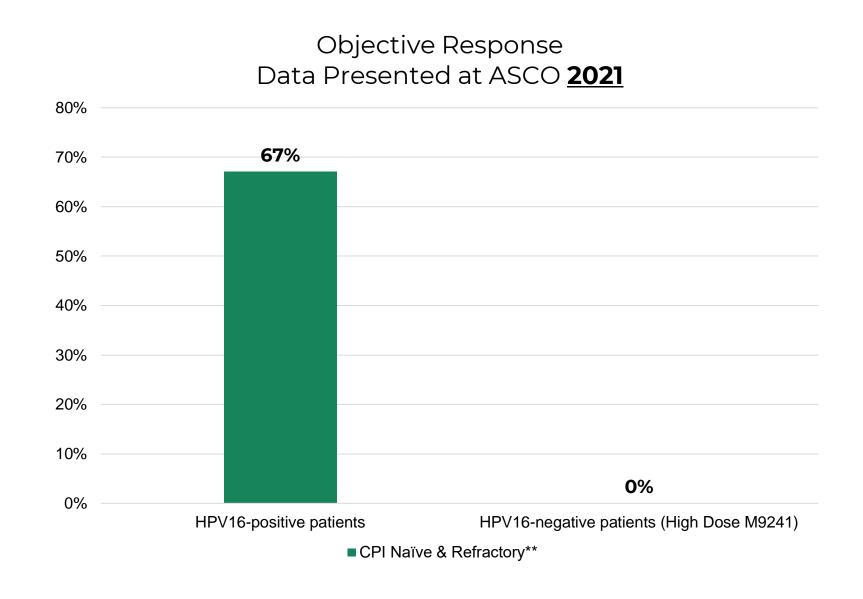
PDS0101 Designed to Promote Efficacy in HPV16 Cancers

Studies appear to show key contributions of PDS0101, PDS0301 & Bintrafusp alfa* to clinical response to date

High dose PDS0301 (M9241) provides increased ORR vs. low dose P<0.01



Tumor reduction only seen in HPV16-positive patients P<0.001



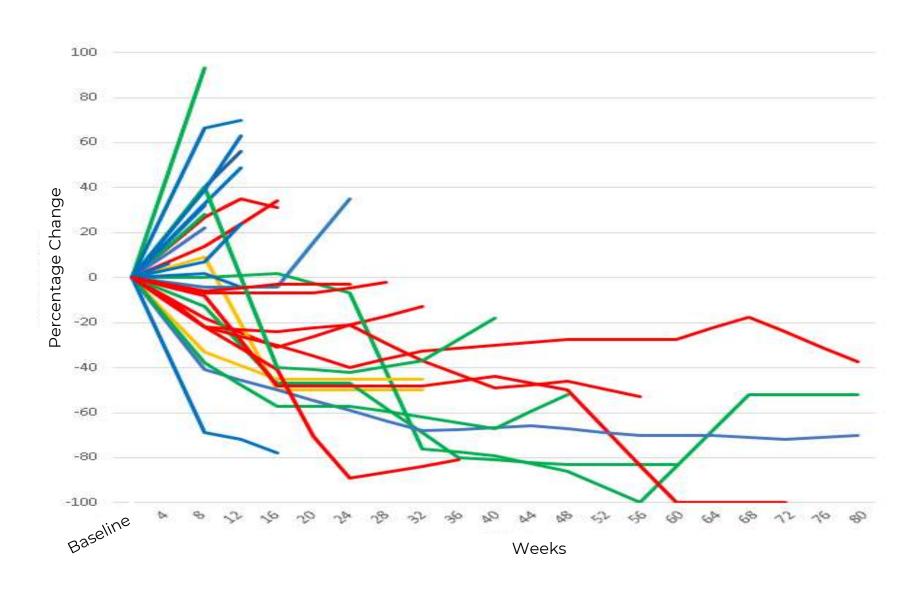
^{*}Bintrafusp alfa monotherapy showed 30% ORR in CPI naïve and 10% ORR in CPI refractory HPV-positive cancers (Strauss et al, 2020, Dec 8(2) **All HPV16 negative and 80% of HPV16 positive patients had high dose M9241



PDS0101: Triple Combination Active Against HPV16 Cancer

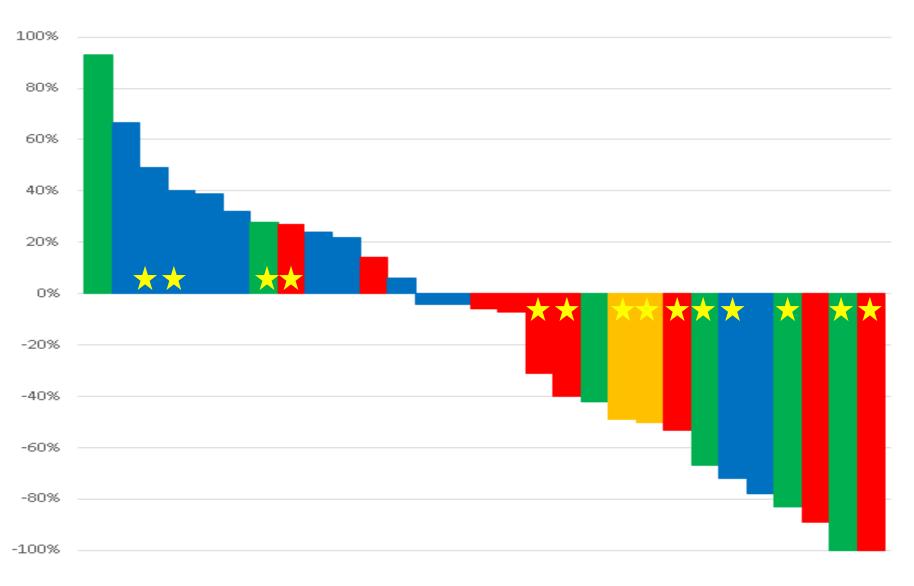
Responses to date across tumor types and higher PDS0301 dose show the potential to result in greater clinical efficacy

Responses Occurred Irrespective of Tumor Type



Best Overall Response

Active Against Diverse HPV16 Cancers





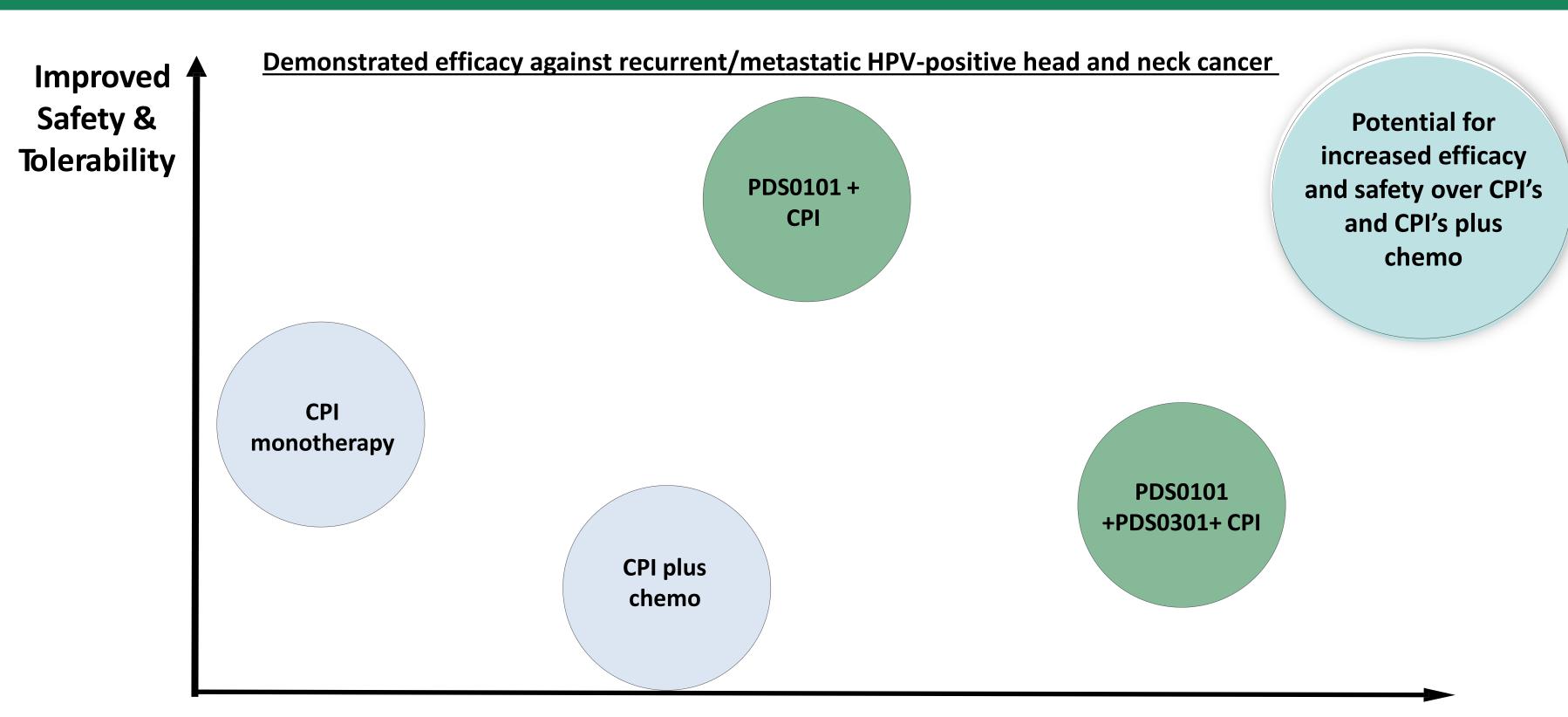
Reference: Strauss J. et al. Phase II evaluation of the triple combination of PDS0101, M9241, and Bintrafusp alfa in patients with HPV 16 positive malignancies. Presented at: American Society of Clinical Oncology 2022 Annual Meeting; June 3-7, 2022; Virtual. Abstract: 2518. Best Overall Response is defined by RECIST 1.1





Versamune® IL-12 platform in combination with Checkpoint Inhibitor*

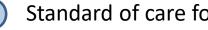
Potential for best-in class immunotherapy



^{*} Based on interim data generated to date in VERSATILE-002 and NCI-led Triple Combination Trials

Enhanced Efficacy





Versamune® Platform

Versamune® based oncology pipeline is being developed in partnership with the leaders in immuno oncology

Candidate	Indication	Combination	PC	P1	P2	Р3	R	Partner(s)
PDS0101 (HPV16) VERSATILE-002 Fast Track Designation	Recurrent/metastatic HPV16-positive head and neck cancer <u>Arm 1</u> : CPI naïve 1st line treatment <u>Arm 2</u> : CPI refractory 2nd or 3rd line treatment	KEYTRUDA ^{(®} (standard of care)						♦ MERCK
PDS0101 (HPV16) NCI-led Triple Combination	HPV-positive anal, cervical, head and neck, penile, vaginal, vulvar cancers Arm 1 : CPI naive 2nd line treatment Arm 2 : CPI refractory 3rd line treatment	CPI and PDS0301						NIH NATIONAL CANCER INSTITUTE
PDS0101 (HPV16) IMMUNOCERV	1st line treatment of locally advanced (IB3-IVA) cervical cancer	Chemo-radiation (standard of care)						MDAnderson Cancer Center
PDS0101 (HPV16) Mayo Clinic	Pre-metastatic HPV-associated oropharyngeal cancer (OPSCC) <u>Arm 1</u> : PDS0101 monotherapy <u>Arm 2</u> : PDS0101 + KEYTRUDA	KEYTRUDA® (standard of care)						MAYO CLINIC
PDS0102 (TARP)	TARP-associated AML, prostate and breast cancers	TBD						NIH NATIONAL CANCER INSTITUTE
PDS0103 (MUC1)	MUC-1 associated breast, colon, lung, ovarian and other cancers	TBD						NIH NATIONAL CANCER INSTITUTE
PDS0104 (TRP2)	Melanoma	TBD						



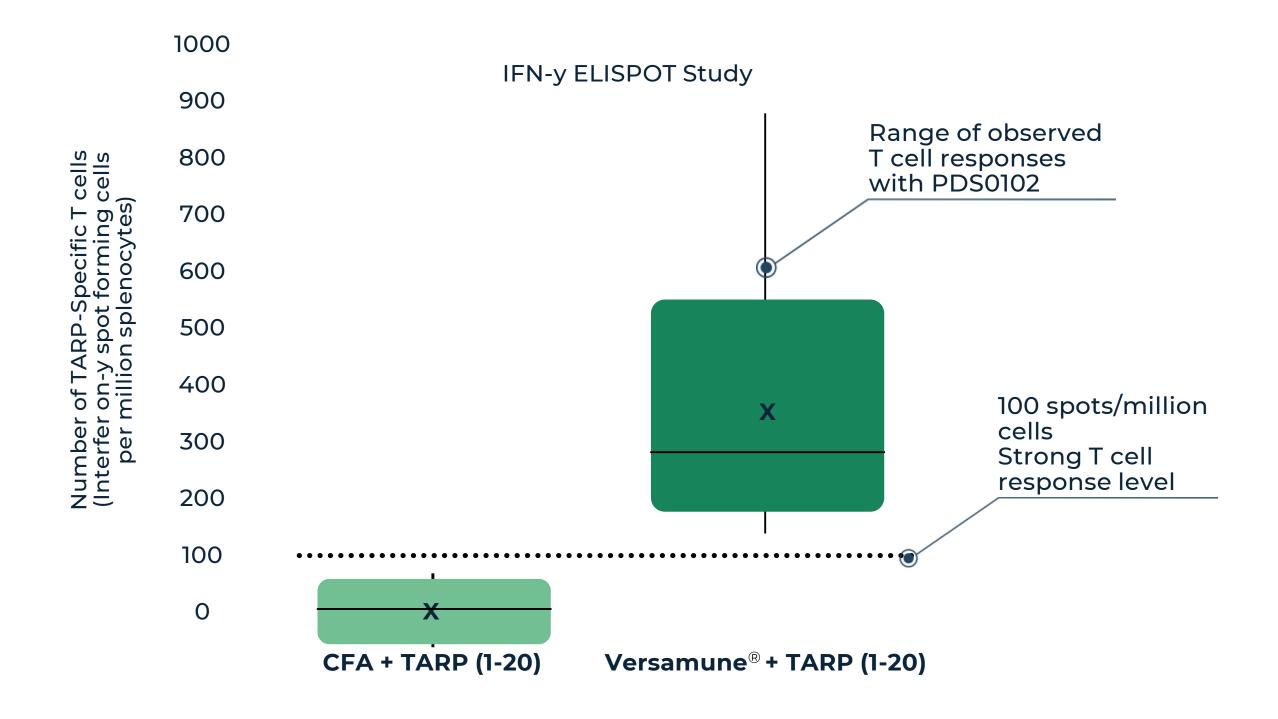
PDS0102: TARP Antigen

Versamune® induced CD8+ killer T cells may result in the ability to treat TARP positive AML and prostate cancers

\$40B TARP Total Market Opportunity*

Announced license with NCI TARP antigens

Pre-Clinical Optimization Studies¹: TARP-Specific T cell Induction after 2 injections of PDS0102



¹ Reference: Wood LV et al, Oncoimmunology, 2016, Vol. 5 (8) CFA -Complete Freund's Adjuvant a highly potent immune activator not used in humans due to potentially lethal

Assumes \$150K for annual course of therapy; in line with current immunotherapy treatment. Assessments have not

*Reference: Surveillance Research Program, National Cancer Institute SEER

been adjusted to reflect TARP expression, which is currently unknown by tumor type

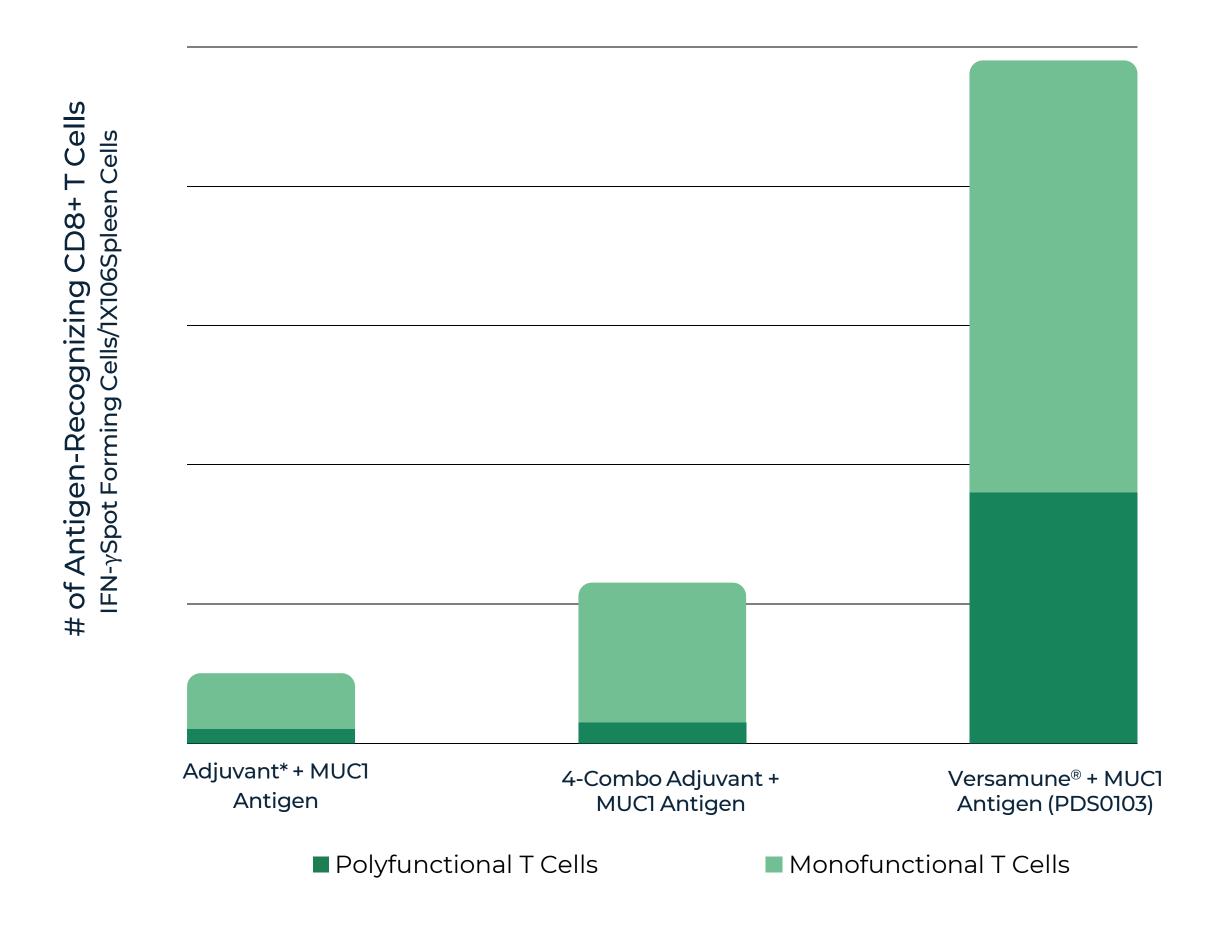


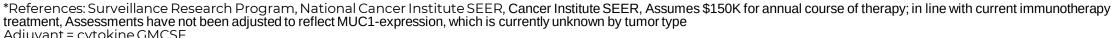
PDS0103: MUC1 Antigen

Greater quantity and quality of Versamune® induced CD8+ killer T cells may result in the ability to treat breast, ovarian, lung, and colon cancers

\$100B MUC1 Total Market Opportunity*

Induced a >10-fold number of polyfunctional (highly potent)
MUC1 specific CD8+ T cells





Projected Milestones Through 3Q 2023*

	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
Completed enrollment of HPV- associated cancer trial CPI refractory arm (NCI)							
Updated preliminary safety and updated efficacy data from NCI trial presented at ASCO							
Preliminary safety and efficacy data (KEYTRUDA® combo) presented at ASCO – FAST TRACK DESIGNATION GRANTED							
Discussions with the FDA on Pivotal Trial (VERSATILE-002)							
Preliminary data from IMMUNOCERV (MD Anderson)							
Anticipate discussion with the FDA on Pivotal Trial (NCI)							
Anticipate preliminary efficacy data from Mayo Clinic IIT							
Initiate registrational trial for PDS0101							
Estimated IND filing in MUC1-related cancers							



PDS Biotech's Infectimune™ Pipeline

Developed in partnership with leaders in infectious disease

Candidate	Indication	РС	P1	P2	Р3	R	Partner(s)
PDS0202 (influenza)	Universal prevention of influenza						NIH National Institute of Allergy and Infectious Diseases
PDS0203 (SARS-CoV-2)	Prevention of COVID-19						
PDS0201 (M-tuberculosis)	Prevention of tuberculosis						





Infectimune™ Pipeline Highlights

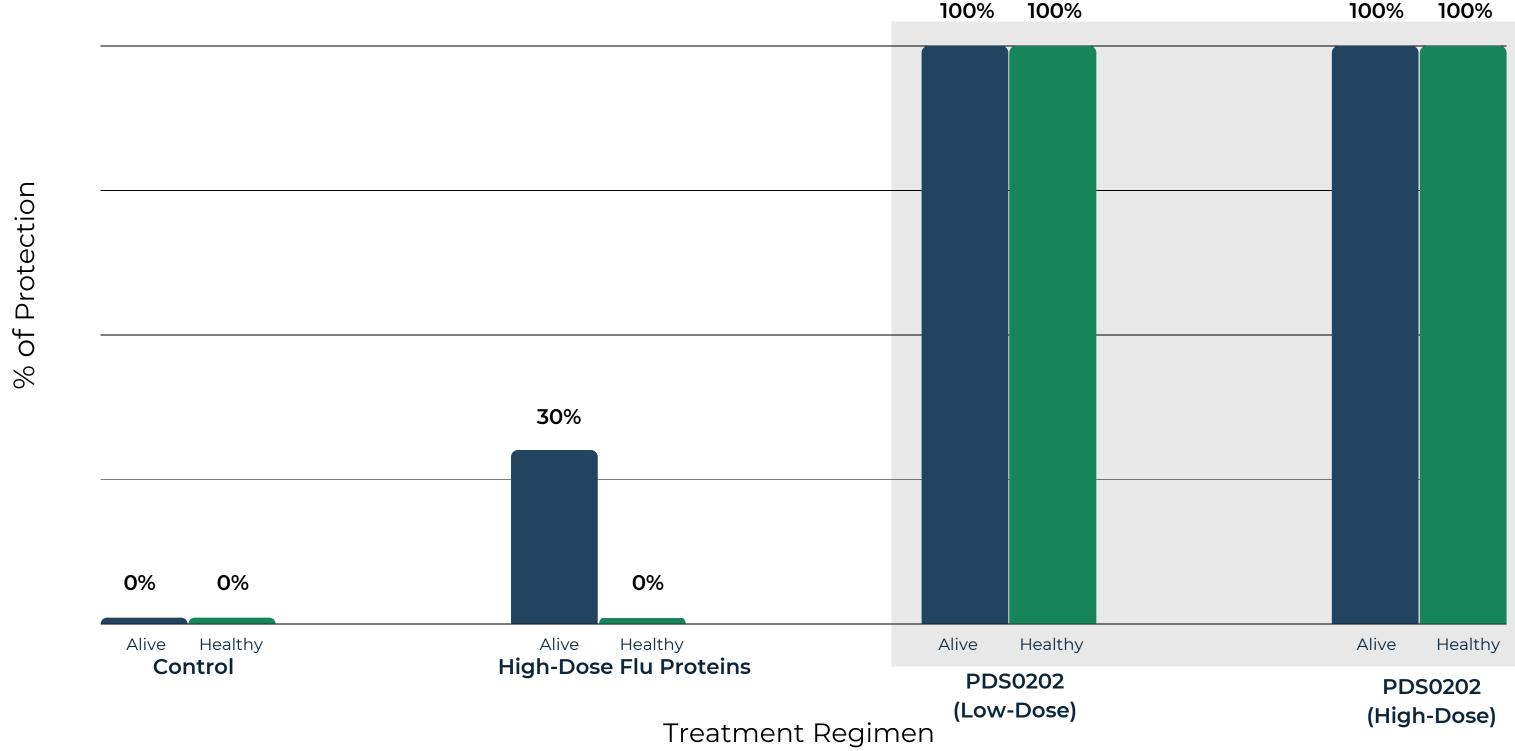
Universal Influenza Vaccines

- License agreement with University of Georgia for proprietary influenza antigens
- Top-line preclinical data announced; effective delivery of flu proteins activate the critical immune signals necessary to generate neutralizing antibody responses to all flu strains tested in animals
- Preclinical data presented at the 41st Annual meeting of the American Society Virology Meeting

PDS0202 Universal Prevention of Influenza

Appeared to Provide Protection in Preclinical Study in Keeping Animals Alive and Healthy Against Challenge with Flu Virus

% of Protection of Subjects Challenged with the Flu Virus



PDS Biotech Management

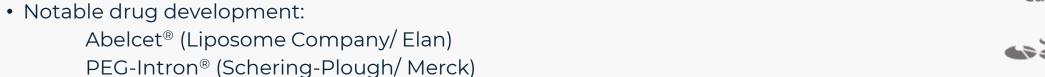
Historical success in the development and commercialization of leading pharmaceutical products

Frank Bedu-Addo, PHD **Chief Executive Officer**

• Senior executive experience with management of strategy and execution at both large pharma and biotechs











Matthew Hill

Chief Financial Officer

- 20 years of financial and operational leadership roles for life sciences companies
- Former Chief Financial Officer of several publicly traded companies







Lauren V. Wood, MD

Chief Medical Officer

- 30 years of translational clinical research experience
- Former Director of Clinical Research at National Cancer
- Institute Center for Cancer Research (Cancer Vaccine Branch)





Gregory Conn, PHD

Chief Scientific Officer

- Co-founder
- 35 years of drug development experience
- In-depth experience with biotech drug discovery, product development and manufacturing





REGENERON



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