PRESS RELEASE

Immatics Presents IMA203CD8 PRAME Cell Therapy Data from Ongoing Dose Escalation and Shows Promising Initial Anti-tumor Activity in PRAME-Positive Tumors at ESMO-IO 2025 Congress

- IMA203CD8 is a second-generation PRAME cell therapy with enhanced pharmacology in ongoing Phase 1a dose escalation
- Manageable tolerability across all dose levels
- Encouraging early clinical anti-tumor activity in advanced solid tumors after one-time infusion of IMA203CD8 at a low median dose during ongoing dose escalation, including deep and durable responses
- Promising dose-dependent clinical signal in ovarian carcinoma supports the strategy to position IMA203CD8 in the tumor-agnostic setting of advanced PRAME cancers beyond melanoma, starting with gynecologic cancers
- Dose escalation and determination of RP2D on track to be completed in 2026, including data on two highest dose levels

Houston, Texas and Tuebingen, Germany, December 11, 2025 – Immatics N.V. (NASDAQ: IMTX, "Immatics" or the "Company"), a clinical-stage biopharmaceutical company and the global leader in precision targeting of PRAME, today announced updated Phase 1a dose escalation data from its second-generation PRAME cell therapy, IMA203CD8, in heavily pre-treated patients with solid tumors. Based on the enhanced pharmacology of IMA203CD8 reported previously, IMA203CD8 provides the potential to address difficult-to-treat solid tumors expressing PRAME beyond melanoma, such as ovarian cancer.

The data from the ongoing Phase 1a trial will be presented today at the European Society for Medical Oncology (ESMO) Immuno-Oncology Congress 2025 during a Mini Oral Presentation by Prof. Dr. med. Antonia Busse, Charité, Berlin, Germany. The slides are accessible in the 'Events & Presentations' section of the Investors & Media section of the Company's website.

"The patients enrolled in this trial were heavily pretreated and presented with various challenging cases of solid tumors expressing PRAME," said Antonia Busse, M.D. "It is encouraging to be able to offer these patients a one-time treatment that is tolerable with a durable clinical

benefit, as shown in this dose escalation trial. These early results underscore the multi-indication targeting potential of IMA203CD8 in patients with PRAME-expressing solid tumors."

"IMA203CD8, our second-generation PRAME cell therapy, marks another wave of innovation in our PRAME franchise," said Cedrik Britten, M.D., Chief Medical Officer at Immatics. "Our vision is to leverage its tumor-agnostic potential and bring meaningful benefit to patients with advanced PRAME cancers beyond melanoma. The data from the ongoing dose escalation, including the initial proof-of-concept in patients with ovarian carcinoma, reinforce the promise of IMA203CD8 as a monotherapy for difficult-to-treat indications. We look forward to completing dose escalation for IMA203CD8 and upcoming clinical readouts of more patients treated at the two highest dose levels."

IMA203CD8 PRAME Cell Therapy (GEN2) Phase 1a Dose Escalation Data Summary

Patient Population: *Heavily pre-treated patient population with limited treatment options*

As of the data cutoff on October 27, 2025, 78[1] heavily pre-treated patients (median of three prior systemic treatments) with advanced and/or metastatic solid tumors expressing PRAME were enrolled in the ongoing Phase 1a dose escalation clinical trial (NCT03686124). The median total infused dose across seven escalating dose levels was $1.6x10^9$ TCR T cells (range $0.4\text{-}12.5x10^9$ TCR T cells). The efficacy-evaluable[2] patient population included 69 patients: 42 with melanoma, 11 with ovarian carcinoma, 11 with synovial sarcoma and 5 with other tumor types[3].

Safety: *Treatment with IMA203CD8 showed manageable tolerability*

IMA203CD8 showed manageable tolerability in the 78 patients enrolled. The most frequent treatment-emergent adverse events (AE) were anticipated cytopenias associated with lymphodepletion. Expected and manageable cytokine release syndrome (CRS) was mostly Grade 1 to 2 and was consistent with the mechanism of action: Grade 1: 35%, Grade 2: 50%, Grade 3: 9%, Grade 4: 1%. Immune effector cell-associated neurotoxicity syndrome (ICANS) and hemophagocytic lymphohistiocytosis (HLH) were infrequently observed. No IMA203CD8-related Grade 5 events occurred.

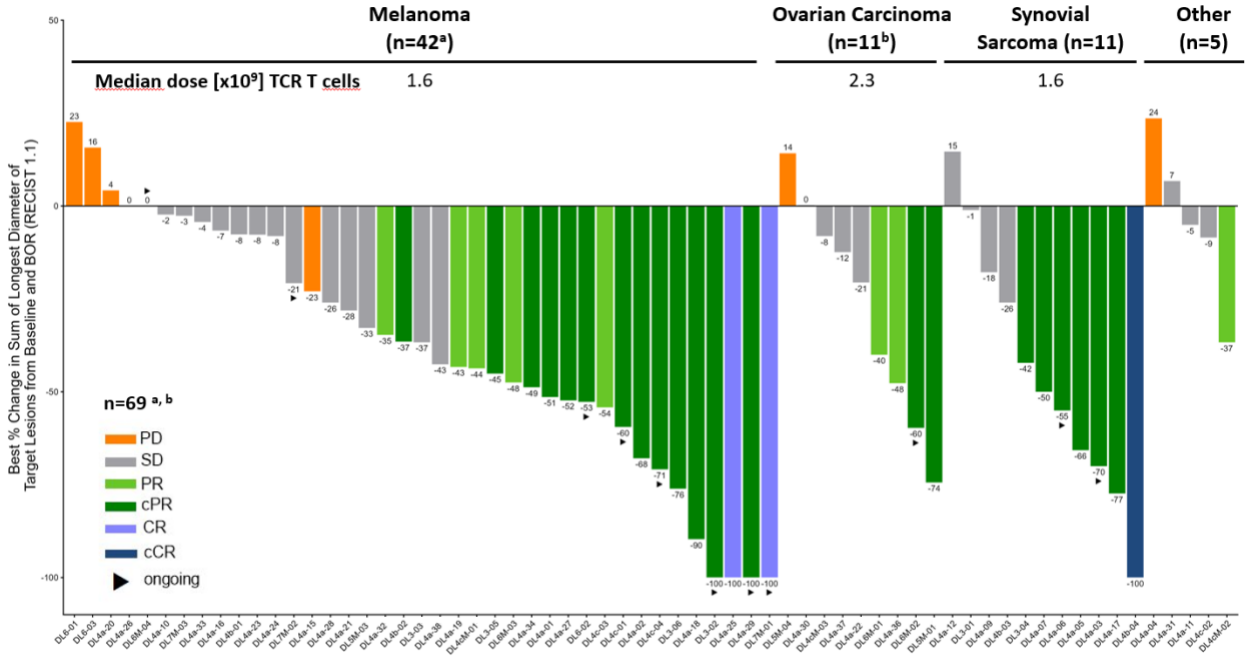
Based on the manageable tolerability profile, dose escalation is ongoing at dose level 7 (range ~$7.2\text{-}10x10^9$ TCR T cells) and on track to determine the recommended Phase 2 dose (RP2D).

[1] All patients who started lymphodepletion.
[2] All patients who received IMA203CD8 infusion and had at least one post-baseline scan or discontinued early due to death.
[3] Includes uterine cancer, lung adenocarcinoma, NSCLC and TNBC.

Anti-tumor Activity and Durability: *Deep and durable objective responses in PRAME-positive advanced solid tumors during ongoing dose escalation*

A one-time infusion of IMA203CD8 PRAME cell therapy showed promising initial anti-tumor activity during dose escalation across various PRAME-expressing indications at a low median dose of 1.6x10^9 total IMA203CD8 TCR T cells:

- Confirmed Objective Response Rate (cORR): 36% (23/64)
- Objective Response Rate (ORR): 46% (32/69)
- Tumor reduction: 78% (54/69)
- Disease Control Rate (DCR) at week 6: 84% (58/69)
- Median Duration of Response (mDOR): 9.2 months at a median follow-up (mFU) of 14 months



[a] Includes 3 patients without post-baseline scan not depicted in plot: n=2 deceased prior to first scan, n=1 with non-evaluable measurements of target lesions (all DL4a); [b] includes 2 patients without post-baseline scan not depicted in plot: n=2 deceased prior to first scan (1 DL4a, 1 DL5); patient DL4a-25 had a cPR prior to CR; BOR: best overall response; (c)CR: (confirmed) complete response; (c)PR: (confirmed) partial response; SD: stable disease; PD: progressive disease.

Deep and durable objective responses were observed for up to 3+ years. The data also showed three complete responses in addition to two confirmed partial responses with -100% reduction of target lesions across indications. 66% (21/32) of responders exhibited deep responses with tumor reduction of ≥ 50%, and seven responses remained ongoing for ≥ 1 year post infusion.

In patients with ovarian carcinoma (n=11, median dose of 2.3x10^9 TCR T cells), a promising, dose-dependent signal was observed, including deep, confirmed objective responses at higher dose

levels. Among the five patients with ovarian carcinoma treated with IMA203CD8 at ≥DL5 (range 2.3-7.1×10^9 TCR T cells), two confirmed partial responses (PRs) were observed, one of which is an ongoing metabolic complete response in the patient treated at the highest dose in the ovarian carcinoma efficacy population to date (7.1×10^9 TCR T cells), and an additional unconfirmed PR. All responders were resistant to previous platinum-based chemotherapy. All responses were observed in patients who did not receive post-infusion low-dose IL-2. In addition, tolerability in ovarian carcinoma was generally consistent with the full IMA203CD8 tolerability profile.

Within Immatics' PRAME franchise, its lead PRAME cell therapy, anzu-cel, showed a cORR of 19% during dose escalation (last reported cORR for anzu-cel in Phase 1b at RP2D in melanoma was 56%; anzu-cel is currently in Phase 3 development). With enhanced pharmacology, IMA203CD8 is designed to build on the potential of anzu-cel in additional tumor types across a broad spectrum of PRAME expression levels and characterized by a more complex tumor microenvironment than melanoma, such as ovarian carcinoma.

Next Steps for IMA203CD8 PRAME Cell Therapy

Immatics aims to position IMA203CD8 in the tumor-agnostic setting of advanced PRAME cancers beyond melanoma, starting with gynecologic cancers. In addition, the Phase 1 trial could support the positioning of IMA203CD8 without the requirement of post-infusion low-dose IL-2 in the future. The Company believes the early proof-of-concept data in ovarian carcinoma presented today support this strategy.

The Company is on track to complete Phase 1a dose escalation and determine RP2D in 2026, including data on the two highest dose levels, to unlock the full clinical potential of IMA203CD8.

About IMA203CD8 PRAME Cell Therapy (GEN2)

IMA203CD8 is Immatics' second-generation PRAME-directed TCR T-cell therapy engineered to recognize an intracellular PRAME-derived peptide presented by HLA-A*02:01 on the cell surface and initiate a potent and specific anti-tumor response. In addition, the co-transduction of CD8αβ alongside the PRAME TCR adds functional CD4+ T cells designed to boost anti-tumor activity. IMA203CD8 is currently being evaluated in a Phase 1a dose escalation clinical trial in solid tumors expressing PRAME.

About PRAME

PRAME is a target expressed in more than 50 cancers. Immatics is the global leader in precision targeting of PRAME and has the broadest PRAME franchise with the most PRAME indications and modalities. The Immatics PRAME franchise currently includes three product candidates, two therapeutic modalities and two combination therapies that target PRAME: anzu-cel (anzutresgene autoleucel, IMA203) PRAME cell therapy, IMA203CD8 PRAME cell therapy (GEN2),

IMA402 PRAME bispecific as a monotherapy and in combination with an immune checkpoint inhibitor as well as anzu-cel in combination with Moderna's PRAME cell therapy enhancer.

About Immatics

Immatics is committed to making a meaningful impact on the lives of patients with cancer. We are the global leader in precision targeting of PRAME, a target expressed in more than 50 cancers. Our cutting-edge science and robust clinical pipeline form the broadest PRAME franchise with the most PRAME indications and modalities, spanning TCR T-cell therapies and TCR bispecifics.

Immatics intends to use its website www.immatics.com as a means of disclosing material non-public information. For regular updates, you can also follow us on LinkedIn and Instagram.

Forward-Looking Statements

Certain statements in this press release may be considered forward-looking statements. Forward-looking statements generally relate to future events or the Company's future financial or operating performance. For example, statements concerning timing of data read-outs for product candidates, observations from the Company's clinical trials, the timing, outcome and design of clinical trials, the nature of clinical trials (including whether such clinical trials will be registration-enabling), the timing of IND, CTA or BLA filings, estimated market opportunities of product candidates, the Company's focus on partnerships to advance its strategy, and other metrics are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may", "should", "expect", "plan", "target", "intend", "will", "estimate", "anticipate", "believe", "predict", "potential" or "continue", or the negatives of these terms or variations of them or similar terminology. Such forward-looking statements are subject to risks, uncertainties, and other factors which could cause actual results to differ materially from those expressed or implied by such forward-looking statements. These forward-looking statements are based upon estimates and assumptions that, while considered reasonable by Immatics and its management, are inherently uncertain. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Factors that may cause actual results to differ materially from current expectations include, but are not limited to, various factors beyond management's control including general economic conditions and other risks, uncertainties and factors set forth in the Company's Annual Report on Form 20-F and other filings with the Securities and Exchange Commission (SEC). Nothing in this press release should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that any of the contemplated results of such forward-looking statements will be achieved. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. The Company undertakes no duty to update these forward-looking statements. All the scientific and clinical data presented within this press release

are – by definition prior to completion of the clinical trial and a clinical study report – preliminary in nature and subject to further quality checks including customary source data verification.

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