PRESS RELEASE

Immatics Reports Interim Clinical Data from Ongoing Phase 1b Cohort A Monotherapy with ACTengine® IMA203 TCR-T Targeting PRAME

*Company to host **conference call** today, May 2, at 8:30 am EDT / 2:30 pm CEST*

- Update covers data from 11 heavily pre-treated, last-line patients in Phase 1b dose expansion Cohort A treated with IMA203 TCR-T monotherapy against PRAME
- Objective response rate (ORR): 64% (7/11) initial ORR at week 6 and 67% (6/9) confirmed ORR at month 3
- Median duration of response not reached at median follow-up time of 8.5 months at data cut-off
- Objective responses independent of solid tumor type at low, medium and high PRAME expression levels in checkpoint-refractory cutaneous melanoma, platinum-resistant ovarian cancer, uveal melanoma, head and neck cancer and synovial sarcoma
- Cohort A IMA203 monotherapy TCR-T treatment continues to show manageable tolerability with no high-grade CRS and no ICANS; no dose dependent increase of CRS observed
- Proprietary rapid manufacturing process with 7 days of manufacturing time; manufacturing success rate of 94% to reach current recommended Phase 2 dose
- Next data update and pathway towards registration-directed trials planned to be set out in 4Q 2023
- Company well capitalized with cash position[1] of $386m at YE 2022 and reach into 2025 to leverage multi-cancer PRAME opportunity

Houston, Texas and Tuebingen, Germany, May 2, 2023 – Immatics N.V. (NASDAQ: IMTX, "Immatics"), a clinical-stage biopharmaceutical company active in the discovery and development of T cell-redirecting cancer immunotherapies, today announced an interim clinical data update for 11 patients with recurrent and/or refractory solid cancers treated with ACTengine® IMA203 TCR-T monotherapy in the ongoing Phase 1b dose expansion Cohort A. IMA203 TCR-T cells are directed against an HLA-A*02-presented peptide derived from PRAME, a broadly expressed solid cancer target with clinical proof-of-concept for IMA203 demonstrated by Immatics in 2022. Overall, IMA203 showed a high rate of deep and durable objective responses, with a confirmed objective response rate of 67% (6/9), across multiple tumor types, including

[1] Cash position includes cash and cash equivalents as well as other financial assets and was €362.2 million as of December 31, 2022 ($386.3 million using the exchange rate published by the European Central Bank in effect as of December 31, 2022 (1 EUR = 1,0666 USD).

two confirmed partial responses (cPR) ongoing at more than 9 months after treatment and three additional partial responses ongoing at data cut-off. IMA203 monotherapy continues to be well tolerated in heavily pre-treated patients at doses of up to approximately 9 billion CD8+ TCR-T cells. No high-grade cytokine release syndrome (CRS) and no immune effector cell associated neurotoxicity syndrome (ICANS) were observed in Cohort A at data cut-off.

The data will be presented by Martin Wermke, MD, Professor at the University Hospital Dresden and Coordinating Investigator of the ACTengine® IMA203 TCR-T trial during a conference call today, May 2, at 8:30 am EDT / 2:30 pm CEST.

"The treatment of solid cancer patients who have exhausted all available standard of care options remains a significant challenge. These patients typically show fast progressing disease with very poor prognosis," said Martin Wermke, MD, Coordinating Investigator of the ACTengine® IMA203 TCR-T trial. "It is therefore very encouraging to see that IMA203 is able to provide durable, clinically relevant responses in a variety of solid cancer patients."

"Today marks a significant step in our efforts towards bringing our ACTengine® IMA203 monotherapy to patients with solid tumors, as we present for the first time longer-term clinical data demonstrating deep and durable responses, some of them ongoing beyond 9 months after treatment," commented Cedrik Britten, MD, Chief Medical Officer at Immatics. "Furthermore, we show that these responses are agnostic of tumor type and that ACTengine® IMA203 achieved objective responses at widely differing PRAME expression levels. These data further increase our confidence in the success and broad potential of targeting PRAME, and our product candidate IMA203. We continue executing and anticipate announcing a potential fast-to-market pathway for the first 1-2 indications by the end of the year."

***Safety data for IMA203 TCR-T monotherapy in Phase 1b Cohort A**: Treatment with IMA203 monotherapy continues to show manageable tolerability at doses as high as ~9x10^9 TCR-T cells.*

- At data cut-off on April 4, 2023, 11 PRAME-positive patients were infused with IMA203 TCR-T cells at dose level (DL) 4 or DL5 with a mean total infused dose of 3.67x10^9 TCR-T cells (range 1.30-8.84x10^9 TCR-T cells).
- Based on data review of 6 patients in the exploratory highest DL5, this DL was cleared by the DSMB (Data and Safety Monitoring Board) for safety, and the updated provisional recommended Phase 2 dose (RP2D) now includes DL4 and DL5. The final RP2D will be defined prior to starting Phase 2.
- Most frequent treatment-emergent adverse events (TEAEs) were as expected for cell therapies.

- All 11 patients experienced expected cytopenia (Grade 1-4) associated with lymphodepletion. 10 patients (91%) had a low to moderate (Grade 1-2) cytokine release syndrome (CRS), of which 5 patients (45%) had Grade 1, and 5 patients (45%) had Grade 2 CRS. No high-grade (Grade 3 or higher) CRS and no immune effector cell associated neurotoxicity syndrome (ICANS) were observed in any of these 11 patients. No dose-dependent increase of CRS was observed across Phase 1a and Phase 1b Cohort A (N=38 patients infused with IMA203 in total).
- No additional dose limiting toxicities (DLT) were observed in Cohort A since the initial Phase 1a dose escalation.

Clinical activity for IMA203 TCR-T monotherapy in Phase 1b Cohort A: *IMA203 monotherapy demonstrates a high rate of deep objective responses with ongoing durability of more than 9 months after treatment in some patients.*

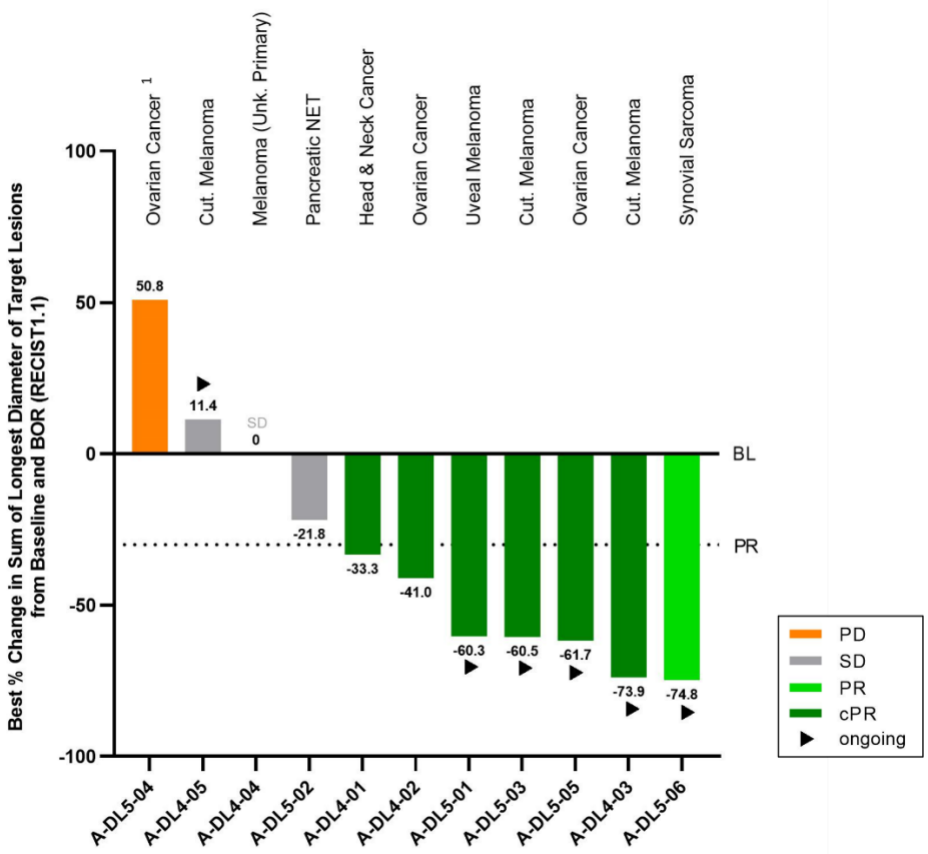
- At data cut-off on April 4, 2023, 11 patients were infused with IMA203 TCR-T cells and evaluable for at least one tumor response assessment post treatment.
- Objective responses were observed in last-line solid cancer patients including cutaneous melanoma, ovarian cancer, uveal melanoma, head and neck cancer, synovial sarcoma.
- Patients were heavily pre-treated with a mean of ~4 lines of prior systemic treatments and had exhausted all available standard of care treatments.
- All cutaneous melanoma patients were checkpoint inhibitor-refractory, all ovarian cancer patients were platinum-resistant.
- Initial objective response rate (ORR) of 64% (7/11) was observed at ~week 6 (partial responses, PR, according to RECIST 1.1).
- Confirmed ORR of 67% (6/9) was observed at ~month 3; initial responses at week 6 were confirmed for all 6 responders with available subsequent 3-month scan.
- Median duration of response[2] was not reached (min 1.3+ months, max 8.8+ months) at a median follow-up[3] of 8.5 months.
- At data cut-off, 5 of 7 responses remain ongoing:
    - 2 cPRs (cut. & uveal melanoma) ongoing at 9+ months
    - 1 cPR (cut. melanoma) ongoing at 6+ months
    - 1 cPR (ovarian cancer) ongoing at ~3 months
    - 1 PR (synovial sarcoma) ongoing at 6+ weeks

[2] Duration of response (DOR) in confirmed responders is defined as time from first documented response until disease progression/death. Patients with ongoing response will be censored at date of data cut-off. Median DOR is analyzed by using the Kaplan-Meier method.

[3] Median follow-up is analyzed by using the reverse Kaplan-Meier method.

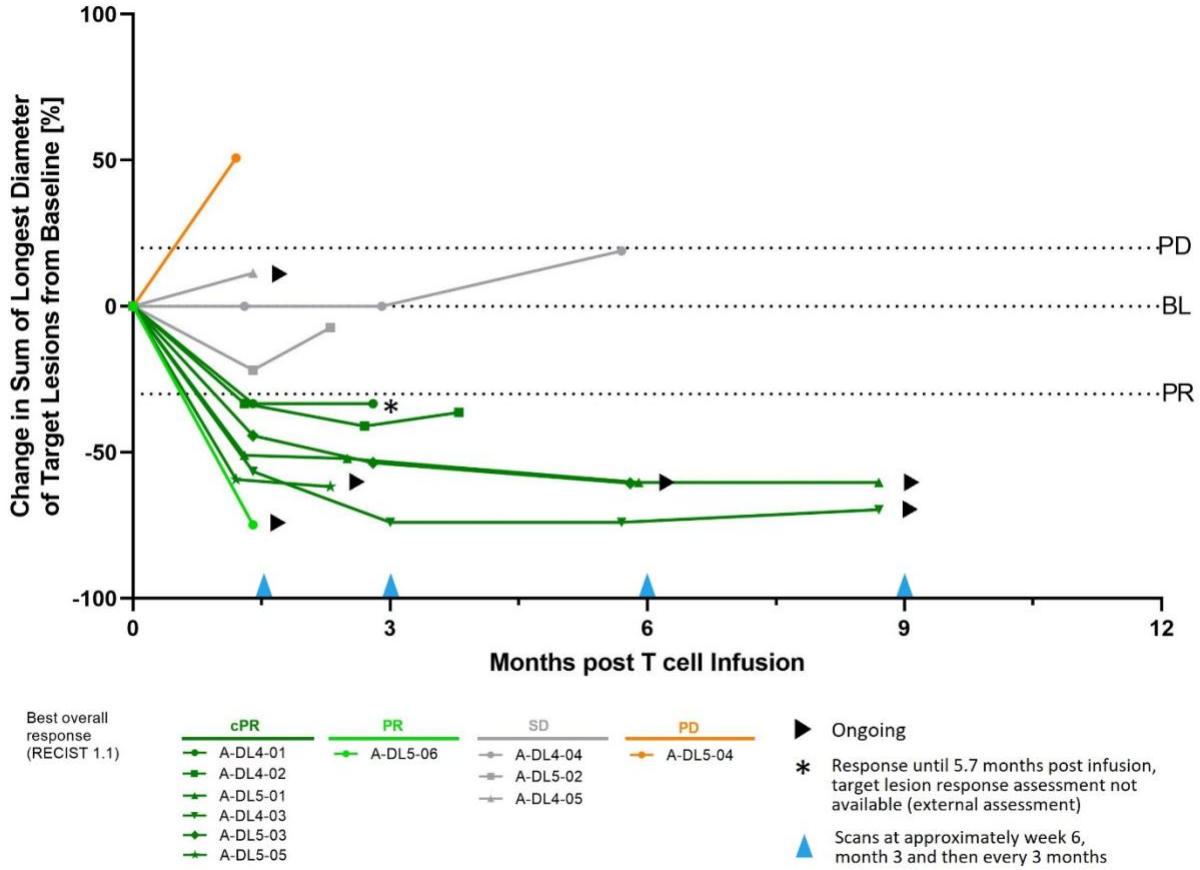
- Objective responses were observed in patients independent of tumor type at all PRAME expression levels above Immatics' mass spectrometry-guided RNA threshold including expression levels at or just above this threshold.
- IMA203 T cells were found in all evaluable tumor tissues and the level of tumor infiltration was associated with objective responses.

Best Overall Response – Phase 1b Cohort A



[1] Ovarian cancer patient A-DL5-04 erroneously received one dose of nivolumab and is part of intent-to-treat population (shown here) but not per-protocol population; NET: Neuroendocrine Tumor; PD: Progressive disease; SD: Stable disease; PR: Partial response; cPR: Confirmed partial response; BL: Baseline; BOR: Best Overall Response

Response over Time – Phase 1b Cohort A



Manufacturing of IMA203 TCR-T cells

- Immatics' proprietary manufacturing process has a manufacturing time of 7 days (+7-day expedited release testing), with a success rate of 94% in achieving the provisional RP2D.
- Manufacturing improvements (including monocyte depletion) and higher applied cell doses implemented for the Phase 1b part of the trial led to significantly increased levels of IMA203 T cells in the blood of patients in Phase 1b Cohort A compared to patients in the Phase 1a dose escalation.
- Immatics is currently building a state-of-the-art facility designed to manufacture ACTengine® IMA203 TCR-T products, as well as other cell therapy candidates, for registration-directed trials and initial commercial supply. Built with flexibility and cost-efficiency in mind, the facility is designed to be scalable via a modular design to accommodate manufacturing demands. The facility is expected to be operational in 2024.

Development strategy to realize the multi-cancer opportunity PRAME

Immatics believes, the results presented today further validate PRAME as one of the most promising solid tumor targets for TCR-based therapies. Immatics' IMA203 development strategy is based on two pillars aimed initially at a (1) fast-to-market approach and, later at a (2) broad development.

The first objective is to deliver the PRAME-targeted TCR-T cell therapy in 1-2 last-line solid cancer types as fast as possible with a focus on indications with PRAME prevalence above 80% and where clinical proof-of-concept has been demonstrated, such as cutaneous melanoma (potentially bundled with uveal melanoma) and/or ovarian cancer. The buildout of the manufacturing facility will support Immatics' efforts to maximize speed to market. Immatics plans to start a first Phase 2 trial in 1H 2024, which is intended to be designed as a registration-directed trial.

As a second step, Immatics plans to also expand development to other cancer types, such as uterine cancer, lung cancer, breast cancer, head and neck cancer and other tumor types having a broad patient reach.

An update on all three IMA203 Phase 1b Cohorts and clinical development path for PRAME TCR-T monotherapy towards registration-directed trials and potential commercialization is planned for 4Q 2023.

In addition to ACTengine® TCR-T, Immatics is addressing PRAME-positive cancers with a second therapeutic modality, TCR Bispecifics (TCER®), to leverage the full potential of the multi-cancer opportunity PRAME. Immatics' TCER® IMA402 is a next-generation, half-life extended TCR Bispecific for which Immatics submitted a clinical trial application (CTA[4]) to the Paul-Ehrlich-Institute (PEI) on April 14, 2023, to initiate the Phase 1/2 trial. The trial is expected to commence in 2H 2023 with first clinical data planned in 2024.

Both approaches, ACTengine® and TCER®, are distinct therapeutic modalities that have the potential to provide innovative treatment options for a variety of cancer patient populations with different medical needs. Immatics will continue to evaluate which of these therapeutic modalities (ACTengine® vs. TCER® or both) is best suited for each cancer type.

Immatics conference call

[4] Clinical Trial Application (CTA) is the European equivalent of an Investigational New Drug (IND) application.

Immatics will host a conference call today, May 2nd, 2023, at 8:30 am EDT / 2:30 pm CEST to discuss the clinical data. The webcast and presentation can be accessed directly through this link. Participants may also access the slides presented in the webcast on the Immatics website in the Investors section under "Presentations" at www.investors.immatics.com/events-presentations. A replay of the webcast will be made available shortly after the conclusion of the call and archived on Immatics website for at least 90 days.

About IMA203 and target PRAME

ACTengine® IMA203 T cells are directed against an HLA-A*02-presented peptide derived from preferentially expressed antigen in melanoma (PRAME), a protein frequently expressed in a large variety of solid cancers, thereby supporting the program's potential to address a broad cancer patient population. Immatics' PRAME peptide is present at a high copy number per tumor cell and is homogenously and specifically expressed in tumor tissue. The peptide has been identified and characterized by Immatics' proprietary mass spectrometry-based target discovery platform, XPRESIDENT®. Through its proprietary TCR discovery and engineering platform XCEPTOR®, Immatics has generated a highly specific T cell receptor (TCR) against this target for its TCR-based cell therapy approach, ACTengine® IMA203.

ACTengine® IMA203 TCR-T is currently being evaluated in three ongoing Phase 1b dose expansion cohorts in last-line patients: Cohort A IMA203 TCR-T monotherapy, Cohort B IMA203 in combination with an immune checkpoint inhibitor; Cohort B is focused on generating safety data for potential further investigation of a combination approach as a front-line therapy, and Cohort C IMA203CD8 TCR-T monotherapy, where IMA203 engineered T cells are co-transduced with a CD8αβ co-receptor. IMA203CD8 is currently being explored in DL4a (up to $0.8x10^9$ TCR-T cells/m^2 BSA).

About ACTengine®

ACTengine® is a personalized cell therapy approach for patients with advanced solid tumors. The patient's own T cells are genetically engineered to express a novel, proprietary TCR directed against a defined cancer target. The modified T cells are then reinfused into the patient to attack the tumor. The approach is also known as TCR-engineered cell therapy (TCR-T). All Immatics' ACTengine® product candidates can be rapidly manufactured utilizing a proprietary manufacturing process designed to enhance T cell engraftment and persistence *in vivo*.

The ACTengine® T cell products are manufactured at the Evelyn H. Griffin Stem Cell Therapeutics Research Laboratory in collaboration with UTHealth. The ACTengine® Programs are co-funded by the Cancer Prevention and Research Institute of Texas (CPRIT).

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About Immatics

Immatics combines the discovery of true targets for cancer immunotherapies with the development of the right T cell receptors with the goal of enabling a robust and specific T cell response against these targets. This deep know-how is the foundation for our pipeline of Adoptive Cell Therapies and TCR Bispecifics as well as our partnerships with global leaders in the pharmaceutical industry. We are committed to delivering the power of T cells and to unlocking new avenues for patients in their fight against cancer.

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 Twitter, Instagram and LinkedIn.

Forward-Looking Statements:

Certain statements in this press release may be considered forward-looking statements. Forward-looking statements generally relate to future events or Immatics' future financial or operating performance. For example, statements concerning the timing of product candidates and Immatics' focus on partnerships to advance its strategy are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may", "should", "expect", "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 filings with the 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. Immatics 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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