PRESS RELEASE

Immatics Reports Interim Clinical Data from ACTengine® IMA203 and IMA203CD8 TCR-T Monotherapies Targeting PRAME in an Ongoing Phase 1 Trial

Company to host conference call and webcast today, November 8, at 8:30 am EST/2:30 pm CET

IMA203 data with focus on melanoma patients presented at the International Congress of the Society for Melanoma Research today, November 8

- IMA203 GEN1 TCR cell therapy targeting PRAME – update on Phase 1a and Cohort A
  - Continues to be well tolerated
  - 50% confirmed objective response rate (cORR) in melanoma patients treated at recommended Phase 2 dose; durability with some ongoing responses at >15 months and median duration of response not reached at a median follow-up of 14.4 months
  - Targeted to enter registration-enabling Phase 2 trial in melanoma in 2024; discussions with FDA ongoing based on recently obtained RMAT designation
- IMA203CD8 GEN2 TCR cell therapy targeting PRAME – first clinical data from Cohort C
  - Manageable tolerability, dose escalation ongoing
  - Initial clinical activity with 56% (5/9) cORR and 58% ORR (7/12) observed during dose escalation dose levels 3 and 4; 6 out of 7 responses ongoing with longest response at >12 months
  - Enhanced pharmacology and differentiated response pattern
- Signal finding in non-melanoma indications started, including ovarian cancer, uterine cancer, NSCLC, triple-negative breast cancer, preferentially with IMA203CD8 GEN2
- Cash and cash equivalents over $500 million and cash reach well into 2026; updates across the entire clinical portfolio of Cell Therapy and two TCR Bispecifics programs planned throughout 2024

Houston, Texas and Tuebingen, Germany, November 8, 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 interim data from the ongoing Phase 1 trial with ACTengine® IMA203 in patients with recurrent and/or refractory solid cancers. The update is focused on IMA203 GEN1 in melanoma at the recently defined recommended Phase 2 dose (RP2D) and the first clinical data for IMA203CD8 GEN2.

Treatment with IMA203 GEN1 monotherapy in Phase 1a and Phase 1b Cohort A at RP2D demonstrated durable objective responses in melanoma patients with one patient exceeding 12 months and two patients exceeding 15 months post infusion and a 50% (6/12) confirmed objective response rate (cORR). In line with previous results, IMA203 GEN1 monotherapy was well tolerated at total doses up to $10x10^9$ TCR-T cells infused.

In addition, the first data on the company's second-generation product candidate IMA203CD8 demonstrated 56% (5/9) cORR with enhanced pharmacology and a differentiated response pattern compared to IMA203 GEN1. The company plans to develop IMA203 GEN1 in melanoma and to pursue development of IMA203 in ovarian cancer, uterine cancer, NSCLC, triple-negative breast cancer and other tumor types preferentially with IMA203CD8 GEN2.

The melanoma-focused data on IMA203 GEN1 will be presented today by Martin Wermke, MD, Professor at the University Hospital Dresden and Coordinating Investigator of the ACTengine® IMA203 TCR-T trial, at the 20th International Congress of the Society for Melanoma Research in Philadelphia, PA, taking place November 6th-9th, 2023.

In addition, Dr. Wermke together with Cedrik Britten, MD, Chief Medical Officer at Immatics will provide the complete data update during a conference call and webcast today, November 8 at 8:30 am EST/2:30 pm CET. The presentation is available on Immatics' website – covering the complete data set including Phase 1a, Phase 1b Cohort A and the deprioritized Cohort B (IMA203 GEN1 combined with nivolumab).

"A cancer diagnosis can be the start of a daunting journey characterized by devastating setbacks when conventional therapies fail. I believe that the updated data on IMA203 GEN1 shows meaningful benefit and long-term durability in melanoma patients," said Martin Wermke, MD, Coordinating Investigator of the ACTengine® IMA203 TCR-T trial. "With the maturation of the clinical data set, it becomes progressively evident to me that targeting PRAME with Immatics' IMA203 TCR-T approach has the potential to provide a durable benefit for advanced-stage checkpoint- and BRAF-inhibitor refractory melanoma patients."

"Today, we are excited to report on the continued clinical progress for our ACTengine® IMA203 TCR-T cell therapies, which we believe have demonstrated meaningful clinical benefit for last-line solid cancer patients treated with IMA203 or its second-generation product candidate IMA203CD8. We now plan to progress IMA203 into a registration-enabling Phase 2 trial in melanoma as quickly as possible, while we believe that our second-generation approach is exhibiting unique patterns in pharmacology guiding our development efforts towards other

tumor types such as ovarian, uterine, lung and triple-negative breast cancer," commented Dr. Cedrik Britten, Chief Medical Officer at Immatics. "We plan to provide an update on the clinical development plan for IMA203 in the first quarter of 2024 as well as updates across the entire clinical TCR cell therapy and bispecifics portfolio throughout 2024."

Clinical data on anti-tumor activity and safety

IMA203 GEN1 in melanoma patients treated at RP2D: *IMA203 GEN1 demonstrates a high rate of objective responses with ongoing durability of more than 15 months after treatment*

- At data cut-off on September 30, 2023, a total of 16 PRAME-positive patients with cutaneous, uveal or melanoma of unknown primary origin were infused with IMA203 GEN1 at the recommended Phase 2 dose (RP2D, 1-10x10^9 total TCR-T cells) across Phase 1a or Phase 1b Cohort A.
- IMA203 GEN1 monotherapy continues to be well tolerated. All 16 patients experienced cytopenia (Grade 1-4) associated with lymphodepletion as expected. Patients had mostly mild-moderate cytokine release syndrome (CRS), of which 10 patients (63%) had Grade 1, and 5 patients (31%) Grade 2 and 1 patient (6%) Grade 3 CRS. One non-serious, mild (Grade 1) immune effector cell associated neurotoxicity syndrome (ICANS) was observed. No dose-dependent increase of CRS, no dose-limiting toxicities (DLTs) and no IMA203-related death was observed. The safety profile for non-melanoma patients treated with IMA203 GEN1 was generally consistent with safety in the melanoma subset and is provided in the appendix of the presentation.
- 13 out of 16 infused patients were evaluable for efficacy analysis based on at least one tumor response assessment being available post treatment. These patients received a median total infused dose of 1.73x10^9 IMA203 TCR-T cells (range 1.07-5.12x10^9 TCR-T cells).
- Most patients were heavily pre-treated with a median of 4 lines of systemic therapies, thereof a median of 2 lines of checkpoint inhibitors; all 8 cutaneous melanoma patients were checkpoint inhibitor-refractory and 5 of 8 were BRAF inhibitor-pretreated.
- 50% (6/12) confirmed objective response rate (cORR) and 62% (8/13) initial ORR (RECIST 1.1).
- Durability of responses ongoing beyond 12 months in one patient and 15 months in two patients after treatment.
- Median duration of response (mDOR) was not reached (min 2.2+ months, max 14.7+ months) at a median follow-up (mFU) of 14.4 months.
- RP2D has been defined at 1-10x10^9 total TCR-T cells.
- Cell product manufacturing:
    - 7-day manufacturing process plus 7-day release testing
    - Manufacturing success rate: >95% to reach RP2D

- Immatics has recently received Regenerative Medicine Advanced Therapy (RMAT) designation from the FDA for IMA203 GEN1 in multiple PRAME-expressing cancers, including cutaneous and uveal melanoma, and is now targeting a registration-enabling Phase 2 trial in cutaneous melanoma potentially bundled with uveal melanoma in 2024. Discussions with FDA to align on patient populations, trial design and CMC aspects concerning the planned Phase 2 trial are ongoing.

IMA203CD8 GEN2 in Cohort C: *First clinical data set on IMA203CD8 shows an enhanced pharmacology profile with a differentiated response pattern compared to IMA203 GEN1*

- At data cut-off on September 30, 2023, a total of 12 PRAME-positive patients were infused with IMA203CD8 GEN2 across DL3 (0.2-0.48x10^9 TCR-T cells/m^2 BSA), DL4a (0.481-0.8x10^9 TCR-T cells/m^2 BSA) and DL4b (0.801-1.2x10^9 TCR-T cells/m^2) in Cohort C with a median total infused dose of 1.17x10^9 IMA203CD8 TCR-T cells (range 0.64-2.05x10^9 TCR-T cells).
- All patients were heavily pre-treated with a median of 3 lines of systemic therapies.
- All patients experienced cytopenia (Grade 1-4) associated with lymphodepletion as expected. 11 out of 12 patients (92%) experienced a cytokine release syndrome (CRS), of which 8 patients (67%) had Grade 1 or 2 CRS, 2 patients (17%) had Grade 3 CRS and 1 patient (8%) had a Grade 4 CRS. The latter patient also had a reported Grade 4 neurotoxicity. No ICANS or neurotoxicity was reported for the other patients. No IMA203CD8-related deaths were observed. Dose-limiting toxicities (DLTs) were reported for 2 of 4 patients treated at DL4b. No DLT was reported for all 4 patients treated at DL3, or all 4 patients treated at DL4a. DL4a dose cohort is ongoing.
- Initial clinical activity was observed with a cORR of 56% (5/9) and initial ORR of 58% (7/12) (RECIST 1.1).
- 6 of 7 responses (including two unconfirmed responses with no subsequent scan available at data cut-off) were ongoing at data cut-off with longest response at >12 months after infusion.
- mDOR was not reached (min 2.0+ months, max 11.5+ months) at a mFU of 4.8 months.
- Reduction of tumor size was observed in 11 out of 12 patients, with a deepening of response from initially stable disease (SD) to partial response (PR) observed in two patients.
- Translational data showed enhanced pharmacology of IMA203CD8 GEN2: trend towards responses at lower T cell dose and higher tumor burden compared to IMA203 GEN1; IMA203CD8 GEN2 achieved higher peak expansion (Cmax) when normalized to infused dose and T cells showed higher initial activation levels without exhaustion over time.

Overview of patient characteristics and anti-tumor activity across IMA203 clinical trial cohorts

	IMA203 GEN1			IMA203CD8 GEN2
	All Comers (N=45)		Melanoma Subgroup (N=13 out of 45)	All Comers (N=12)
	Phase 1a	Cohort A	Phase 1a + Cohort A	Cohort C
Efficacy population*	N=27 Thereof N=7 at RP2D	N=18 at RP2D	N=13 at RP2D	N=12
Dose level	DL1-4	DL4/5	DL4/5	DL3/DL4a/DL4b
ORR	48% (13/27)	50% (9/18)	62% (8/13)	58% (7/12)
cORR	19% (5/27)	47% (8/17)	**50% (6/12)**	**56% (5/9)**
mDOR [months]	4.4 (2.4, 23.0)	Not reached	**Not reached**	**Not reached**
mFU [months]	Not defined[#]	10.8	**14.4**	**4.8**

* Patients with at least one available tumor response assessment post infusion; [#] All patients were PD at data cut-off; Initial ORR: Objective response rate according to RECIST 1.1 at any post infusion scan; Confirmed ORR (cORR): Confirmed objective response rate according to RECIST 1.1 for patients with at least two available post infusion scans or patients with progressive disease (PD) at any prior timepoint, patients with ongoing unconfirmed PR not included in cORR calculation; 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 (mDOR) is analyzed by using the Kaplan-Meier method; Median Follow-up (mFU) is analyzed by using the reverse Kaplan-Meier method.

The full data analysis including IMA203 GEN1 in Phase 1a and Cohort A as well as deprioritized Cohort B (IMA203 in combination with a checkpoint inhibitor), is available as part of the presentation on the company's website.

Development path for IMA203 GEN1 and IMA203CD8 GEN2 monotherapies

The goal of Immatics' development strategy is to make its cell therapies targeting PRAME available to the broadest possible solid cancer patient population with an initial focus on the US market. To achieve this, Immatics has announced a three-step development strategy for leveraging the full breadth of PRAME, a target that is highly expressed in various solid cancers.

1. Focus on IMA203 GEN1 in cutaneous melanoma (potentially bundled with uveal melanoma), targeted to enter a registration-enabling Phase 2 clinical trial in 2024. Discussions with FDA to align on patient population, clinical trial design and CMC aspects are ongoing under the RMAT designation achieved for IMA203 GEN1 in multiple cancer types including cutaneous and uveal melanoma. There are up to 3,300 HLA-A*02 and PRAME-positive cutaneous and

uveal melanoma last-line patients per year in the US. A next update on the clinical development plan is expected in the first quarter of 2024.

2. In parallel, commence dedicated dose expansion cohorts for signal finding in ovarian and uterine cancer, preferentially with IMA203CD8 GEN2. Enrollment of patients with these cancer types is already ongoing. There are up to 9,000 HLA-A*02 and PRAME-positive ovarian and uterine last-line cancer patients per year in the US.

3. The development of a broader tumor-agnostic label in PRAME+ solid cancers, including in NSCLC, triple-negative breast cancer, and others. This could leverage the full potential of PRAME across multiple solid cancer types.

Immatics conference call and webcast

Immatics will host a conference call and webcast today, November 8, 2023, at 8:30 am EST/2:30 pm CET to discuss the clinical data. The presentation can be accessed directly through this link. A replay of the webcast will be made available shortly after the conclusion of the call and archived on the 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 homogeneously 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 Phase 1 Cohort A IMA203 GEN1 monotherapy, and Cohort C IMA203CD8 GEN2 monotherapy, where IMA203 engineered T cells are co-transduced with a CD8αβ co-receptor. As previously reported, Cohort B IMA203 in combination with an immune checkpoint inhibitor has been deprioritized.

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 are 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.

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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 presentation 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, the timing and outcome of clinical trials, the nature of clinical trials (including whether such clinical trials will be registration-enabling), the timing of IND or CTA filing for pre-clinical stage product candidates, 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, 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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