PRESS RELEASE

Immatics Initiates Phase 1 Clinical Trial to Evaluate Lead TCR Bispecific IMA401 in Patients with Advanced Solid Tumors

- Patient enrollment for IMA401 Phase 1 trial started at first clinical site in Germany
- The study will evaluate safety, tolerability, and initial anti-tumor activity of IMA401 in patients with recurrent and/or refractory solid tumors
- TCER® IMA401 targets MAGEA4/8 and will be developed in collaboration with Bristol Myers Squibb

Tuebingen, Germany and Houston, Texas, May 10, 2022 – 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 the initiation of a Phase 1 clinical trial with its T cell engaging receptor (TCER®) IMA401 for patients with recurrent and/or refractory solid tumors. IMA401 is the most advanced product candidate from Immatics' TCR Bispecific pipeline targeting an HLA-A*02-presented peptide derived from both MAGEA4 and MAGEA8. TCER® IMA401 will be developed in collaboration with Bristol Myers Squibb. Immatics is responsible for conducting the Phase 1 clinical trial.

The primary objectives of the clinical trial (NCT#05359445) are to determine the maximum tolerated dose (MTD) and/or the recommended phase 2 dose (RP2D) for IMA401 in biomarker-positive (HLA-A*02:01 and MAGEA4/8) patients with recurrent and/or refractory solid tumors. Secondary objectives are to characterize safety and tolerability, evaluate initial anti-tumor activity and assess pharmacokinetics of IMA401. The Phase 1 trial consists of a dose-escalation (Phase 1a) portion that will be followed by a dose-expansion (Phase 1b) portion to treat patients at the recommended dose level. The trial is planned to be conducted at up to 15 centers in Germany, with the first site already being initiated. The Phase 1 trial is designed to enroll approximately 50 patients.

"IMA401 is the first TCER® candidate from our TCR Bispecifics pipeline entering clinical development, and expands our clinical portfolio with an exciting new TCR-based immunotherapy approach that can be supplied off-the-shelf compared to autologous cell therapies," said Cedrik Britten, Chief Medical Officer at Immatics. "Our innovative TCER® format leads to an extended-half-life and incorporates novel binding-moieties that are designed to maximize efficacy while

minimizing toxicities in patients. Our TCER® IMA401 could treat a range of solid tumors and therefore meet currently unmet needs of a broad patient population. This is best achieved with a strong pharma partner which we have found in Bristol Myers Squibb."

Immatics entered into a global exclusive license agreement with Bristol Myers Squibb in December 2021 for the IMA401 program under which both companies will collaborate to advance the program through clinical development.

Immatics' TCR Bispecific pipeline includes a second TCER® product candidate, IMA402, which targets PRAME. Manufacturing of the clinical IMA402 batch is planned for the second half of 2022 and initiation of the Phase 1 trial is planned in 2023. Immatics' TCER® pipeline is further strengthened by additional innovative TCER® program(s), IMA40X, in preclinical development.

About IMA401

IMA401 is Immatics' most advanced TCER® molecule that targets an HLA-A*02-presented (human leukocyte antigen) peptide derived from two different cancer-associated proteins, melanoma-associated antigen 4 and/or 8 ("MAGEA4/8"). The MAGEA4/8 peptide has been identified and validated by Immatics' proprietary mass spectrometry-based target discovery platform XPRESIDENT® and is presented at a 5-fold higher copy number per tumor cell than a MAGEA4 peptide targeted in other clinical trials. Following preclinical proof-of-concept data, including complete remissions of transplanted human-derived tumors in xenograft mouse models, the Phase 1 trial investigates IMA401 in patients with tumors of high MAGEA4/8 prevalence, such as squamous non-small cell lung carcinoma (sqNSCLC), small cell lung cancer (SCLC), head and neck squamous cell carcinoma (HNSCC), bladder, uterine, esophageal and ovarian carcinomas, as well as melanoma, sarcoma subtypes and other solid cancer types.

About TCER®

Immatics' half-life extended TCER® molecules are antibody-like "off-the-shelf" biologics that leverage the body's immune system by redirecting and activating T cells towards cancer cells expressing a specific tumor target. The design of the TCER® molecules enables the activation of any T cell in the body to attack the tumor, regardless of the T cells' intrinsic specificity. Immatics proprietary biologics are engineered with two binding regions: a TCR domain and a T cell recruiter domain. The TCER® format is designed to maximize efficacy while minimizing toxicities in patients. It contains a high-affinity TCR domain that is designed to bind specifically to the cancer target peptide on the cell surface presented by an HLA molecule. The antibody-derived, low-affinity T cell recruiter domain is directed against the TCR/CD3 complex and recruits a patient's T cells to the tumor to attack the cancer cells. With a low-affinity recruiter aiming for optimized biodistribution and enrichment of the molecule at the tumor site instead of the periphery, TCER® are engineered to reduce the occurrence of immune-related adverse events, such as cytokine release syndrome. In addition, the TCER® format consists of an Fc-part conferring half-life

extension, stability, and manufacturability. TCER® are "off-the-shelf" biologics and thus immediately available for patient treatment. They can be distributed through standard pharmaceutical supply chains and provide the opportunity to reach a large patient population without the need of specialized medical centers.

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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.

For regular updates about Immatics, visit www.immatics.com. 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 presentation 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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