UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

January 9, 2023

Commission File Number: 001-39363

IMMATICS N.V.

Paul-Ehrlich-Straße 15
72076 Tübingen, Federal Republic of Germany
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

INFORMATION CONTAINED IN THIS REPORT ON FORM 6-K

On January 9, 2023, Immatics N.V. (the "Company") made available an updated investor presentation on its website, a copy of which is attached hereto as Exhibit 99.1. The fact that this presentation is being made available and filed herewith is not an admission as to the materiality of any information contained in the presentation. The information contained in the presentation is being provided as of January 9, 2023 and the Company does not undertake any obligation to update the presentation in the future or to update forward-looking statements to reflect subsequent actual results.

EXHIBIT INDEX

Exhibit No.	**Description**
99.1	Presentation dated January 9, 2023

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: January 9, 2023

IMMATICS N.V.

By: /s/ Harpreet Singh
Name: Harpreet Singh
Title: Chief Executive Officer

Exhibit 99.1

Immatics Corporate Presentation

January 09, 2023

Delivering the Power of T cells to Cancer Patients

Forward-Looking Statement

This presentation ("Presentation") is provided by Immatics N.V. ("Immatics" or the "Company") for informational purposes only. The information contained herein does not purport to be all-inclusive and none of Immatics, any of its affiliates, any of its or their respective control persons, officers, directors, employees or representatives makes any representation or warranty, express or implied, as to the accuracy, completeness or reliability of the information contained in this Presentation.

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 of IND or CTA filing for pre-clinical stage 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", "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 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. The Company undertakes no duty to update these forward-looking statements.

No Offer or Solicitation. This communication is for informational purposes only and does not constitute, or form a part of, an offer to sell or the solicitation of an offer to sell or an offer to buy or the solicitation of an offer to buy any securities, and there shall be no sale of securities, in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offer of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended, or in an offering exempt from registration.

Certain information contained in this Presentation relates to or is based on studies, publications, surveys and the Company's own internal estimates and research. In addition, all of the market data included in this presentation involves a number of assumptions and limitations, and there can be no guarantee as to the accuracy or reliability of such assumptions. Finally, while the Company believes its internal research is reliable, such research has not been verified by any independent source. All the scientific and clinical data presented within this presentation 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.

Building a Leading TCR Therapeutics Company

Two Clinical-Stage Modalities

Pipeline of TCR-T and TCR Bispecific product candidates in clinical & preclinical development

Clinical PoC for Cell Therapy

High rate of confirmed objective responses across multiple solid tumors in early TCR-T clinical development

Differentiated Platforms

Unique technologies to identify true cancer targets and right TCRs

Therapeutic Opportunity

Potential for addressing large patient populations with high prevalence targets in solid tumors

Our Near-Term Focus – Clinical Development of Our Lead Assets from Our Autologous TCR-T (ACTengine®) and TCR Bispecifics (TCER®) Pipeline

ACTengine® IMA203 (PRAME)

Three IMA203 Ph1b cohorts:
- Monotherapy
- Checkpoint combo
- 2nd-gen IMA203CD8

Data read-outs across all cohorts in 2023

TCER® IMA401 (MAGEA4/8)

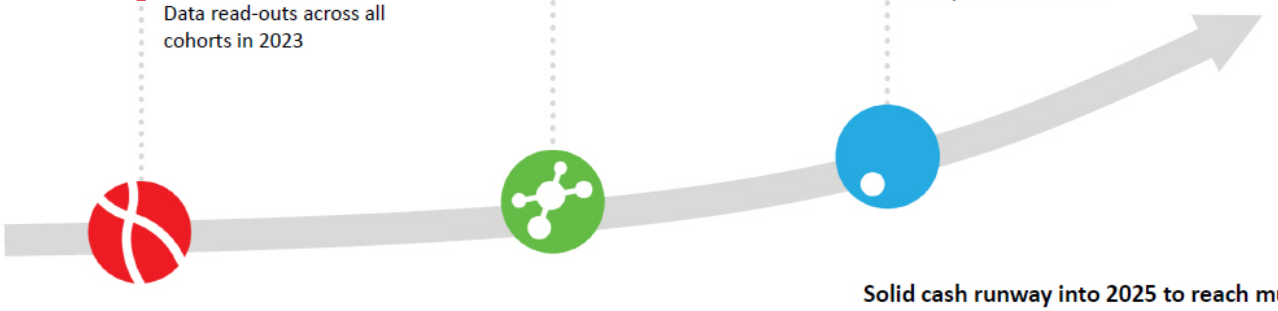
Advance ongoing Phase 1 clinical trial

Establish clinical PoC

TCER® IMA402 (PRAME)

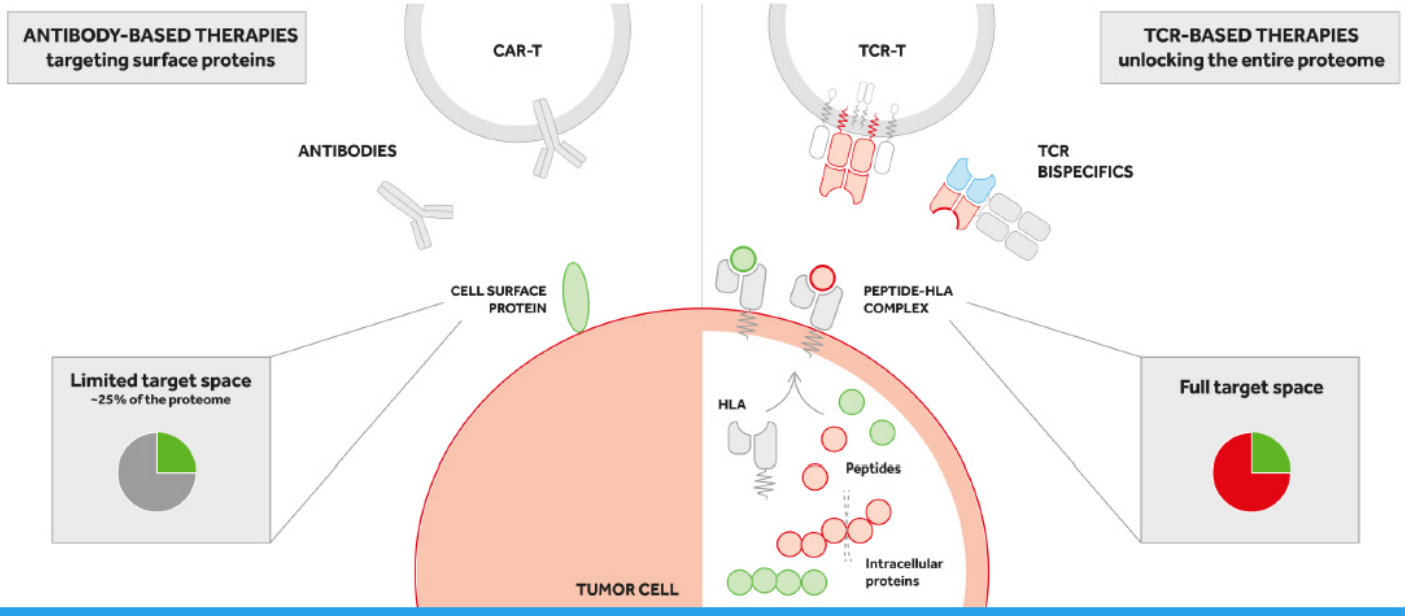
Submission of CTA/IND application planned 2Q 2023

Start of Phase 1/2 clinical trial planned in 2023



Solid cash runway into 2025 to reach multiple value inflections points across our portfolio

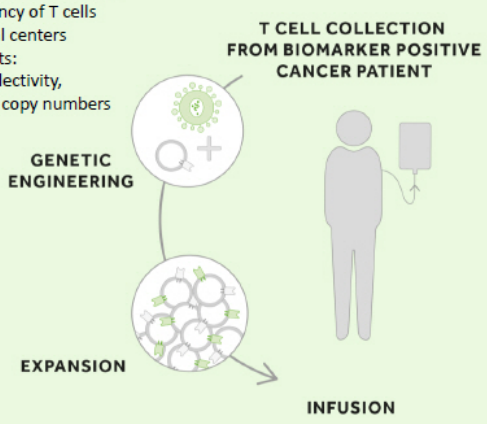
Our TCR-based Approaches Leverage the Full Target Space beyond the Cancer Cell Surface



Two Distinct TCR-based Therapeutic Modalities in Clinical Development

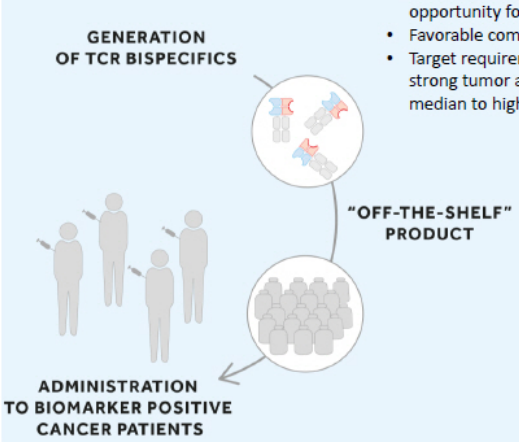
Autologous TCR-T (ACTengine®)

- Strong clinical activity in patients with high tumor burden[1]
- Single dose[2]
- Proprietary manufacturing process for enhanced potency of T cells
- Specialized medical centers
- Target requirements: stringent tumor selectivity, low, medium, high copy numbers



TCR Bispecifics (TCER®)

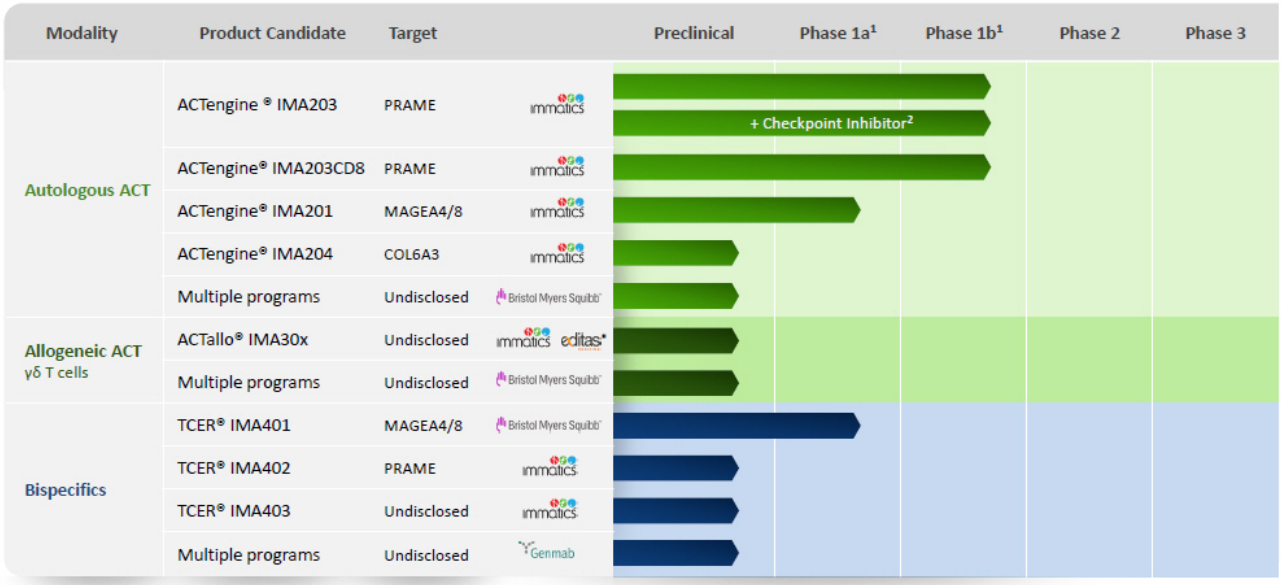
- Off-the-shelf biologic for immediate treatment
- Repeat dosing
- All hospitals and out-patient, opportunity for larger patient reach
- Favorable commercial characteristics
- Target requirements: strong tumor association, median to high copy numbers



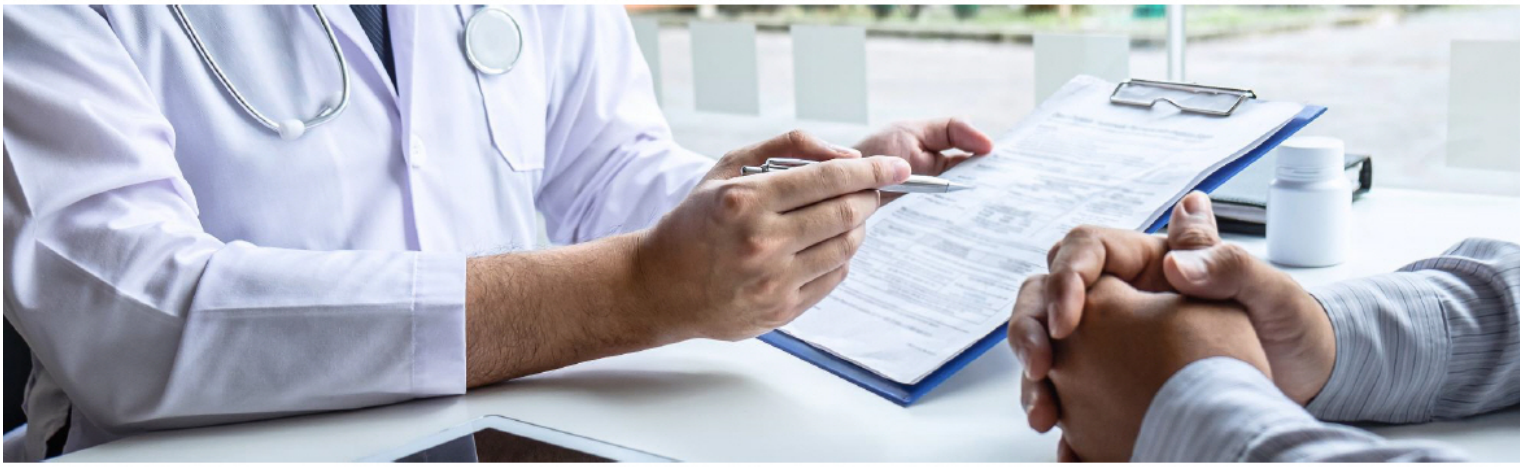
Differentiated positioning of ACTengine® vs. TCER® based on patient population, medical need and geographical reach

[1] Interim data update from the ACTengine® IMA203 TCR-T Phase 1 trial with a 50% (6/12) confirmed ORR target dose or above with at least 1 billion infused TCR-T cells across several solid tumor indications, 80% (4/5) confirmed ORR in Phase 1b patients only; [2] Repeat dosing without re-manufacturing possible

Our Pipeline of TCR-based Adoptive Cell Therapies and Bispecifics



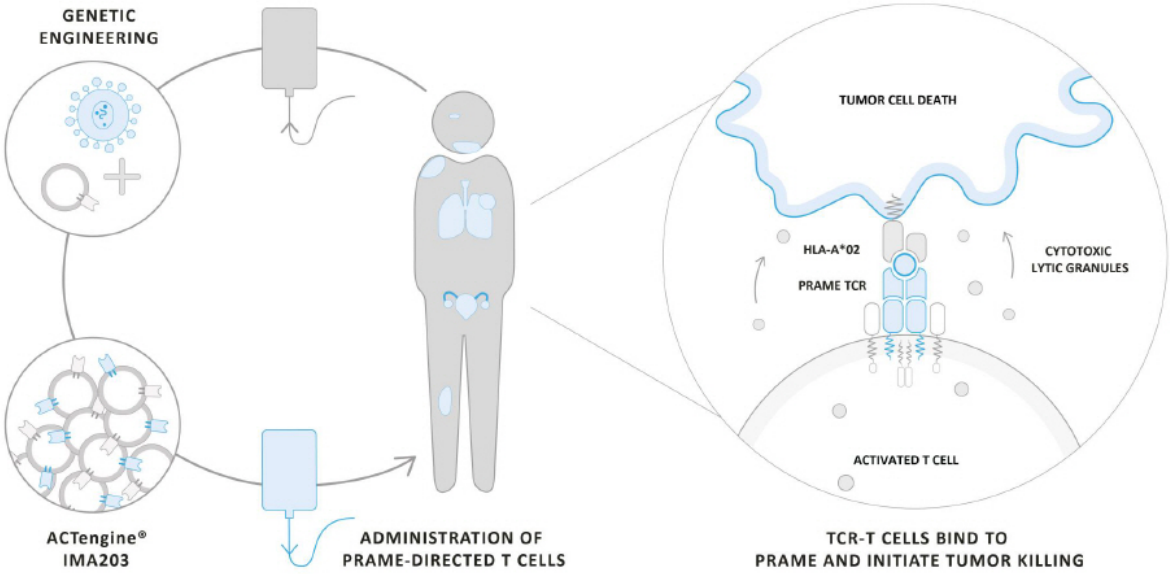
[1] Phase 1a: Dose escalation, Phase 1b: Dose expansion; [2] Opdivo® (nivolumab): programmed death-1 (PD-1) immune checkpoint inhibitor;
• Immatics proprietary ACTallo® platform utilizing Editas' CRISPR gene editing technology



ACTengine® IMA203 – TCR-T Targeting PRAME

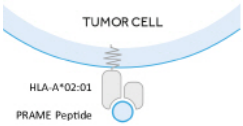
ACTengine® IMA203 Targeting PRAME – Mechanism of Action

Immatics' Leading TCR-T Approach



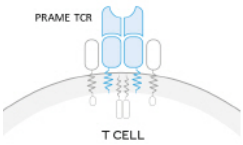
Multi-Tumor Target PRAME

Promising Opportunity for TCR-based Therapies



PRAME Peptide Target

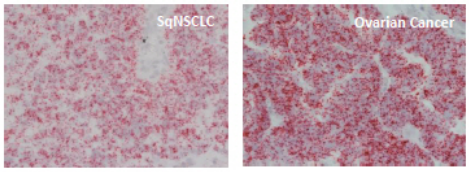
- HLA-A*02:01 presented peptide identified by XPRESIDENT® quant. mass spectrometry
- Presented at high target density in tumor tissue (100-1000 copies/cell)
- Homogenously expressed
- Highly cancer-specific, not expressed in normal tissue at relevant levels
- Highly prevalent across many solid cancers
- Potential to reach a large cancer patient population



IMA203 T cell Receptor (TCR):

- Affinity-improved TCR by enhanced TCR chain pairing
- High functional avidity: EC50 ~5 ng/ml
- Off-target toxicity screening against normal tissue peptides selected from our immunopeptidome database to retain specificity

PRAME RNA detection in tumor samples (ISH)



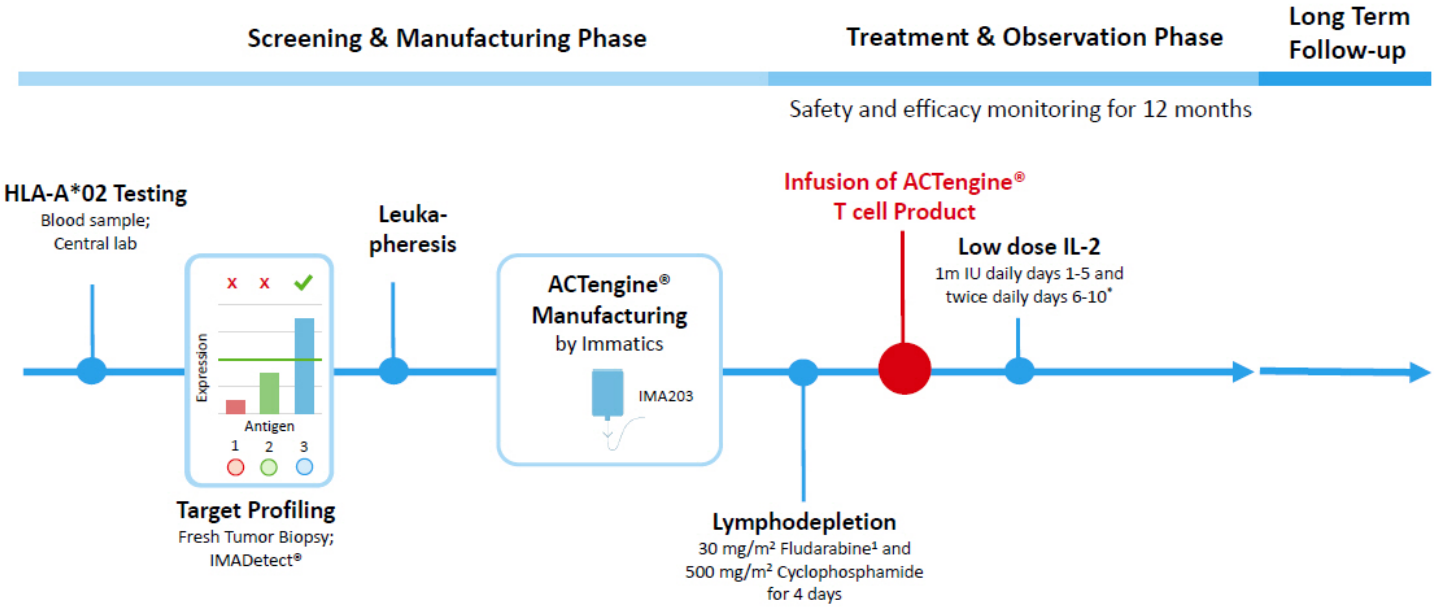
Patient screening data from Immatics' clinical trials support high prevalence of PRAME:

Uterine Carcinoma	90%
Cut. Melanoma	95%
Uveal Melanoma[2]	90%
Ovarian Carcinoma	70%

Indication	% PRAME positive patients[1]
Uterine Carcinoma	100%
Uterine Carcinosarcoma	100%
Sarcoma Subtypes	up to 100%
Cut. Melanoma	95%
Uveal Melanoma[2]	50%
Ovarian Carcinoma	80%
Squamous NSCLC	65%
TNBC	60%
Small Cell Lung Cancer	55%
Kidney Carcinoma	up to 45%
Cholangiocarcinoma	35%
Adeno NSCLC	25%
Breast Carcinoma	25%
HNSCC	25%
Esophageal Carcinoma	20%
HCC	20%
Bladder Carcinoma	20%

[1] PRAME target prevalence is based on TCGA (for SCLC: in-house) RNAseq data combined with a proprietary mass spec-guided RNA expression threshold; [2] TCGA: early & late-stage primary tumor samples, Immatics clinical trials: late-stage/metastatic tumor samples, Role of PRAME in metastasis of uveal melanoma: Field *et al.* 2016 Clinical Cancer Research; NSCLC: Non-small cell lung cancer, TNBC: Triple-negative breast cancer, HNSCC: Head and neck squamous cell carcinoma; HCC: Hepatocellular carcinoma

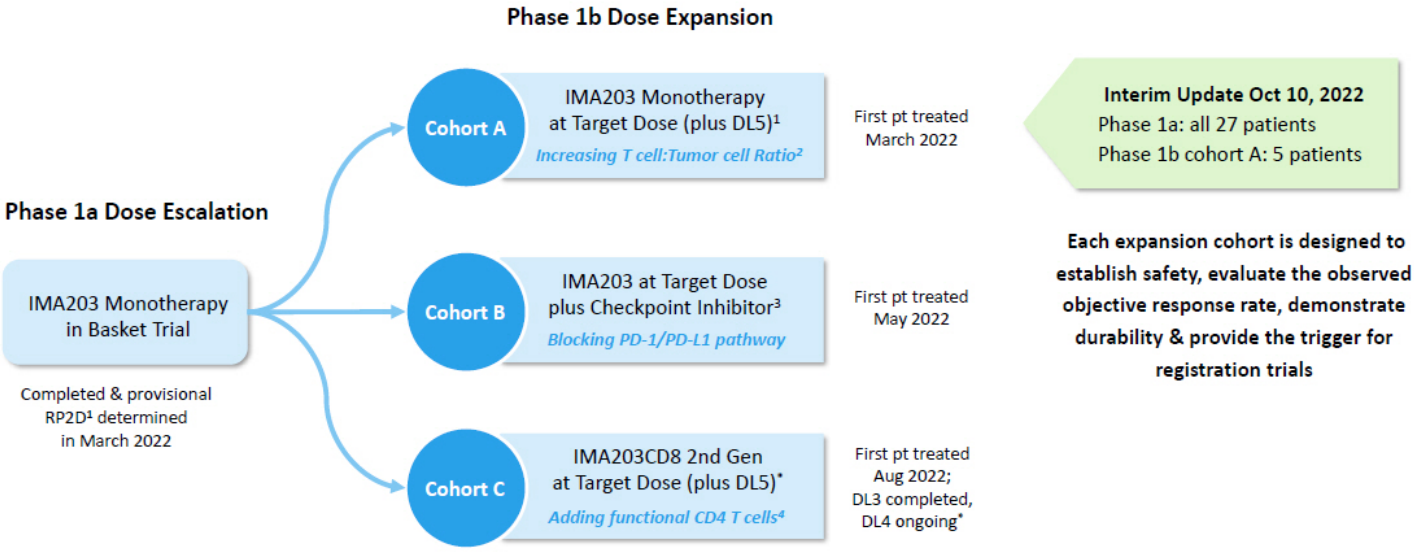
ACTengine® IMA203 – Patient Flow



* IL-2 dose reduction from twice daily to daily for the first 5 days and dosing duration from 14 to 10 days introduced prior to treatment of first patients on dose level 3;
¹ Dose reduction of Fludarabine (from 40mg/m² to 30mg/m²) was introduced prior to treatment of the first patient on dose level 3

IMA203 TCR-T Phase 1 Design

Three Phase 1b Expansion Cohorts to Establish Durable Objective Responses



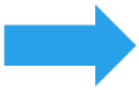
[1] RP2D (target dose) determined at DL4, exploration of higher dose (DL5) ongoing; [2] Demonstrated to be associated with durable response: Locke *et al.* 2020 Blood Advances; [3] Opdivo® (nivolumab): programmed death-1 (PD-1) immune checkpoint inhibitor; * Treatment of n=3 patients at DL3 completed, enrollment at Target Dose DL4 ongoing, exploration of higher dose (DL5) planned; [4] Demonstrated to be important for long-term remission: Melenhorst *et al.* 2022 Nature, Bai *et al.* 2022 Science Advances

Moving from Phase 1a to Phase 1b

Continuous Improvement of Key Aspects that May Influence Clinical Outcome

Our Focus in Phase 1a

- Safety
- Biological activity
- Initial signs of clinical activity



Our Focus in Phase 1b

- Safety
- Durability of response at 6 months and beyond to pave the way for registration trials

We continue to improve key determinants as we move from Phase 1a into Phase 1b

1. **Higher T cell dose:** Only RP2D or exploratory DL5
2. **Enhanced cell product:** Implementation of manufacturing enhancements (e.g. monocyte depletion, see appendix) focusing on robustness, quality, and speed of product release
3. **"Real life" patients:** Working with more disease area experts to reduce the fraction of very heavily pre-treated patients with extreme disease burden who have exhausted standard of care and have undergone multiple clinical trials

ACTengine® IMA203 – Interim Monotherapy Update

Phase 1a

Dose Escalation Data from 27 Patients

- Acceptable & manageable treatment-emergent adverse events (TEAEs)
- DL4 defined as provisional RP2D
- 48% (13/27) initial ORR[1] across all doses and multiple solid cancers
- Limited number of confirmed responses

Phase 1b Cohort A

Initial Data from 5 Patients

- Acceptable & manageable TEAEs
- Patients treated at RP2D (DL4) and exploratory DL5
- 80% (4/5) initial ORR[1] in patients with 4 different solid tumors
- 80% (4/5) confirmed ORR[2]: Confirmation of all objective responses after ~3 months; all responses ongoing

Key Take Aways

IMA203 Monotherapy

- Favorable tolerability profile
- Confirmed responses in multiple heavily pre-treated solid tumor types *(cut. melanoma, uveal melanoma, head and neck cancer, ovarian cancer, synovial sarcoma)*
- Positively evolving durability profile for IMA203
  - above 1 bn TCR-T cells (DL4/5)* in phase 1a and phase 1b: **50% (6/12) confirmed ORR[2]**
  - in phase 1b patients only: **80% (4/5) confirmed ORR[2]**

Data cut-off – 06-Sept-2022

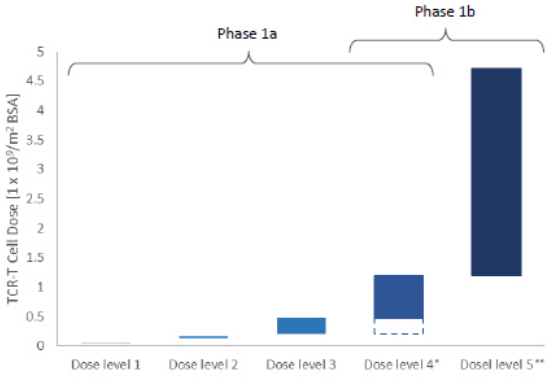
[1] ORR: Objective response rate (partial responses) according to RECIST 1.1 at first scan post infusion (~6 weeks); [2] confirmed ORR: Confirmed objective response rate (confirmed partial responses) according to RECIST 1.1 at second scan post infusion (~12 weeks), 1 patient with SD at ~ 6-week scan with pending ~12-week scan considered as non-responder for confirmed ORR; * Total transduced viable CD8 T cells, all patients in Phase 1a DL4 and Phase 1b DL4/DL5; RPD2: Recommended Phase 2 dose; DL: Dose level

ACTengine® IMA203 Monotherapy – Patient and Product Characteristics

	Phase 1a Dose Escalation		Phase 1b (Cohort A) Dose Expansion
	All pts (DL1-4)	DL4 pts only	All pts (DL4/DL5)
Patients treated	27	7	5
Prior lines of treatment Mean (min, max)	4.2 (1, 8)	4.6 (1, 7)	4.0 (1, 10)
LDH at baseline >1 x ULN [% of patients]	66.7	85.7	40.0
Baseline tumor burden Mean target lesion sum of diameter [mm] (min, max)	130.3 (29.0, 219.7)	115.8 (37.0, 197.6)	55.2 (21.0, 102.9)
Dose Mean transduced viable CD8 T cells infused [x10⁹] (min, max)	0.65 (0.08, 2.09)	1.48 (1.07, 2.09)	2.22 (1.30, 4.16)
Manufacturing Process	Prior versions[1]		Current version

32 heavily pre-treated patients, thereof **12 patients at target dose or above**, were infused with IMA203 TCR-T cells targeting PRAME

IMA203 Dose Levels



DL4 was defined as provisional RP2D for Phase 1b, exploration of higher DL5 ongoing

Data cut-off – 06-Sept-2022

[1] Except for 1 product for patient at DL3 generated with current manufacturing process; * DL4: 200m to 1.2bn transduced viable CD8 T cells per m² BSA, all patients in DL4 received cell doses in the upper tier of DL4, above DL3; ** DL5: up to 4.7bn transduced viable CD8 T cells per m² BSA; ULN: Upper limit of normal; BSA: Body surface area; RP2D: Recommended Phase 2 dose; LHD: Lactate dehydrogenase

IMA203 Tolerability Profile – Most Frequent Adverse Events

Acceptable and Manageable Treatment-emergent Adverse Events (TEAEs)

- **Expected cytopenia (Grade 1-4)** associated with lymphodepletion in all patients
- **Cytokine release syndrome (CRS)**: 31 of 32 (97%) patients infused with IMA203 experienced CRS of any Grade
  - 29 patients had Grade 1 or 2 CRS
  - 2 patients had Grade 3 CRS (both in phase 1a); recovered to Grade ≤2 after 3 and 4 days, respectively
- **Low-moderate ICANS[1]:** 5 of 32 (16%) patients infused with IMA203 experienced Grade 1 or 2 ICANS (all in phase 1a)
- **No dose-dependent increase of CRS and ICANS**
- **No additional DLT[2]**

Data cut-off – 06-Sept-2022

One patient that started lymphodepletion in Phase 1a died from sepsis of unknown origin and did not receive IMA203 T cells, patient reported earlier and not shown; CRS and ICANS graded by CARTOX criteria (Neelapu *et al.*, 2018);
[1] ICANS: Immune effector cell-associated neurotoxicity syndrome; [2] DLT: dose-limiting toxicity, one DLT in phase 1a at DL2 reported on March 17, 2021

Frequency of Observed Objective Responses

Improved ORR and Confirmed ORR at Higher Dose and in Phase 1b Cohort A

	Phase 1a		Phase 1a + Phase 1b	Phase 1b only
	All pts (DL1-4)	DL4 pts only[1]	DL4/DL5 pts only[1]	All pts (DL4/DL5)[1]
Patients Treated	27	7	12	5
ORR (~6 weeks)[2]	48% (13/27)	57% (4/7)	67% (8/12)	80% (4/5)
cORR (~12 weeks)[3]	19% (5/27)	29% (2/7)	50% (6/12)*	80% (4/5)*

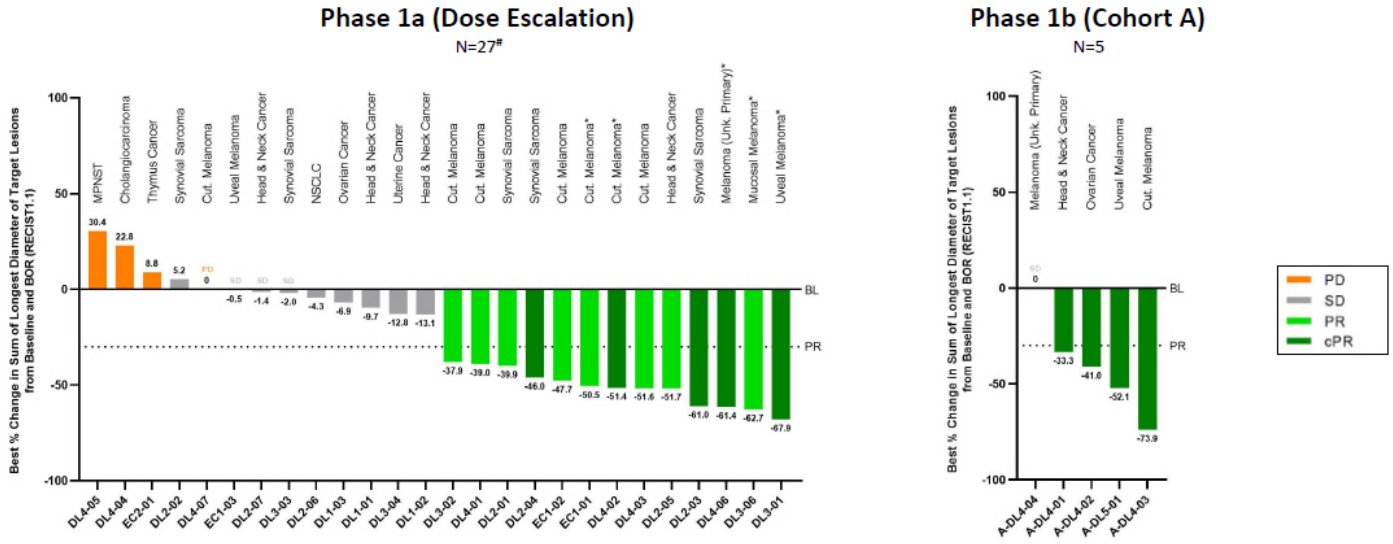
- Higher ORR and confirmed ORR observed at doses above 1 billion TCR-T cells (DL4, DL5)
- Early trends towards higher ORR and confirmed ORR observed in Phase 1b vs. Phase 1a patients

Data cut-off – 06-Sept-2022

[1] All patients received >1 x 10^9 total transduced viable CD8 T cells; [2] ORR: Objective response rate (partial responses) according to RECIST 1.1 at first scan post infusion (~6 weeks); [3] Confirmed ORR (cORR): Confirmed objective response rate (confirmed partial responses) according to RECIST 1.1 at second scan post infusion (~12 weeks); * 1 patient with SD at ~ 6-week scan with pending ~12-week scan considered as non-responder for cORR.

Best Overall Response

IMA203 Continues to Deliver Objective Responses in Major Solid Tumor Types



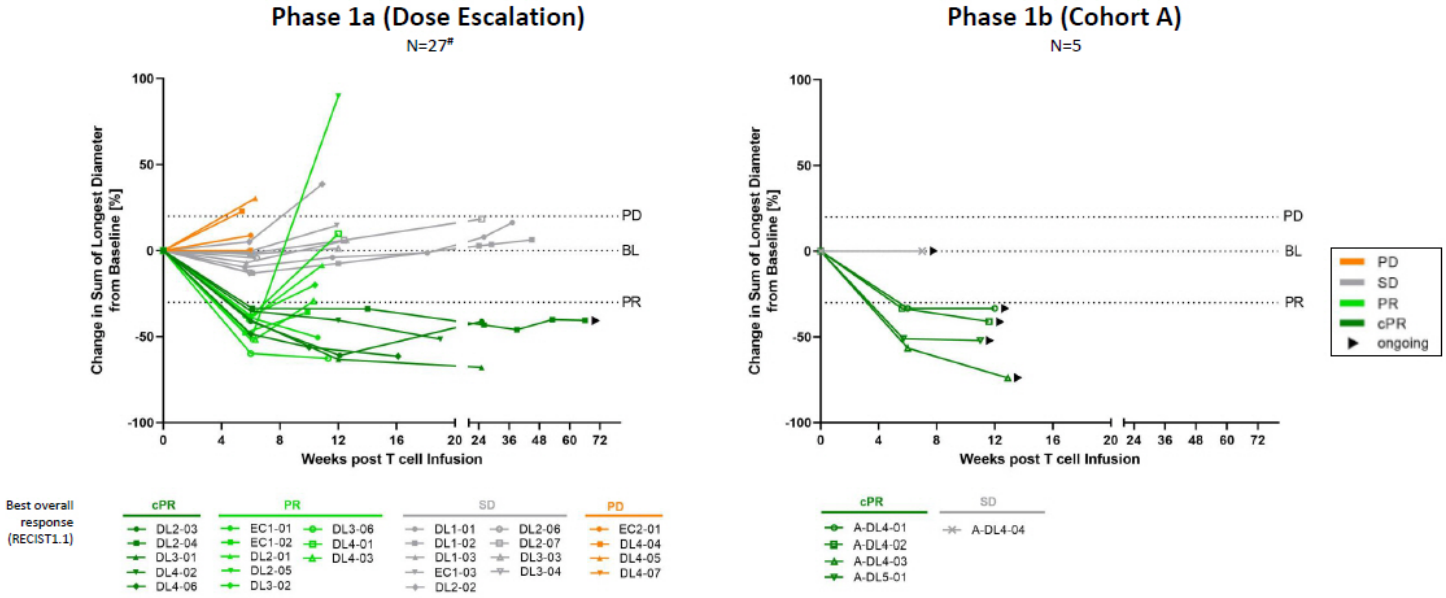
Confirmed objective responses across a broad spectrum of different tumor types such as cutaneous melanoma, uveal melanoma, head and neck cancer, ovarian cancer, synovial sarcoma

Data cut-off – 06-Sept-2022

* Maximum change of target lesions and RECIST 1.1 BOR at different timepoints; # Synovial sarcoma patient (DL3) PD at week 6 not shown as target lesions were not evaluable;
PD: Progressive disease; SD: Stable disease; PR: Partial response; cPR: Confirmed partial response; BL: Baseline

Responses over Time

Encouraging Early Signs for Improved Durability at Higher Dose and in Phase 1b Patients



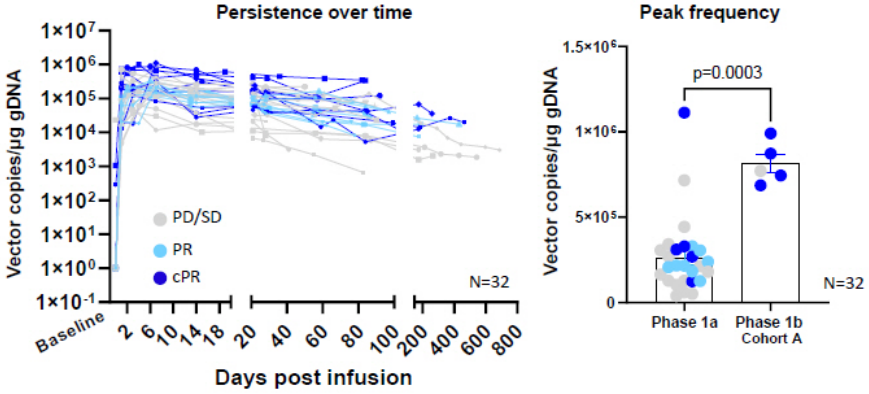
Data cut-off – 06-Sept-2022

Synovial sarcoma patient (DL3) PD at week 6 not shown as target lesions were not evaluable; PD: Progressive disease; SD: Stable disease; PR: Partial response; cPR: Confirmed partial response; BL: Baseline

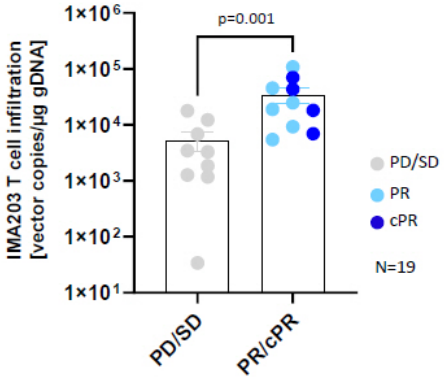
Translational Data Consistent with Clinical Outcomes

Supporting Proposed Mechanism of Action for IMA203

High IMA203 T cell engraftment and persistence in peripheral blood



IMA203 T cell infiltration into tumor correlates with objective responses[1]



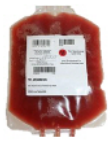
Data cut-off – 06-Sept-2022

Mann-Whitney U test; [1] T cell infiltration for 19 patients (9 non-responder, 10 responder) with 6-week post infusion biopsy available (1 patient with ~5-week post infusion biopsy)

ACTengine® IMA203 Product Manufacturing

Targeting Higher Robustness, Favorable Product Attributes, Faster Turn Around Time

Accelerated Product Release



Leukapheresis

ACTengine® clinical programs: ~3 weeks

Manufacturing time (~1 week)	QC testing (Full sterility, 2 weeks)

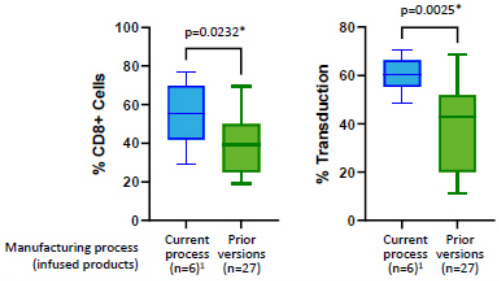
Faster ACTengine®: expected ~2 weeks

Manufacturing time (~1 week)	Expedited QC testing (~1 week)

Implementation planned

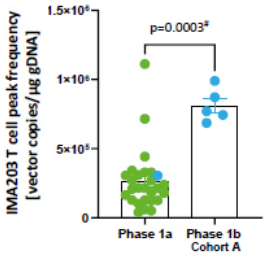
Infusion-Ready

Manufacturing Improvements Implemented in Phase 1b Enhance Key Features of the Cell Product



All Phase 1b cell products were manufactured with the current, optimized process including manufacturing improvements such as

- ✓ Monocyte depletion
- ✓ Serum-free transduction

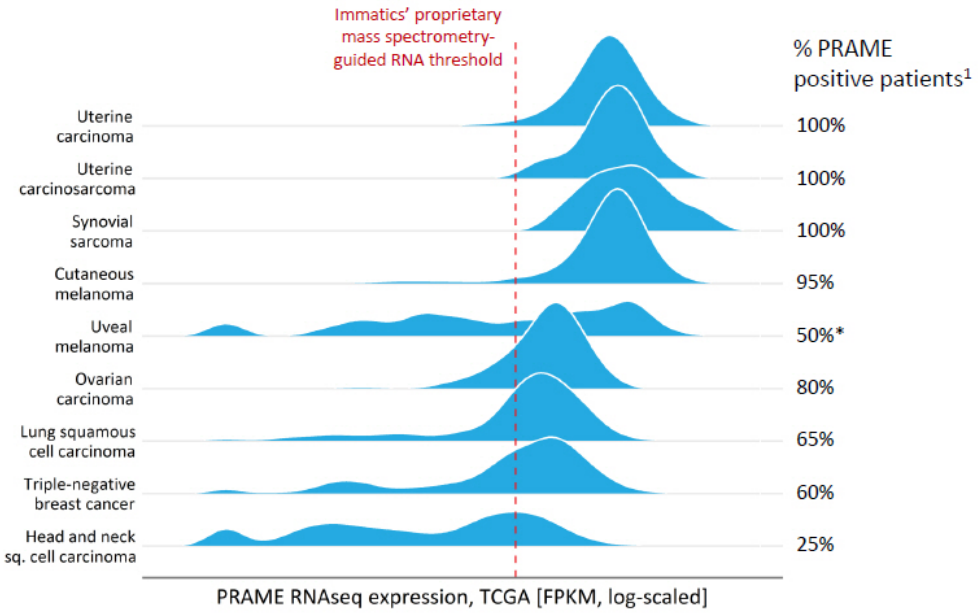


Significantly higher peak frequencies in Phase 1b patients infused with current, optimized product version

[1] Includes 5 IMA203 products infused into Phase 1b cohort A patients, and 1 product infused into Phase 1a patient at DL3; * Unpaired t test;
Mann-Whitney U test, 1 patient in Phase 1a at DL3 received ~0.5 x 10^9 total transduced viable CD8 T cells manufactured with current process

PRAME Expression – RNAseq Data

Combined with Immatics' Mass Spectrometry-guided RNA Threshold for Prevalence Prediction

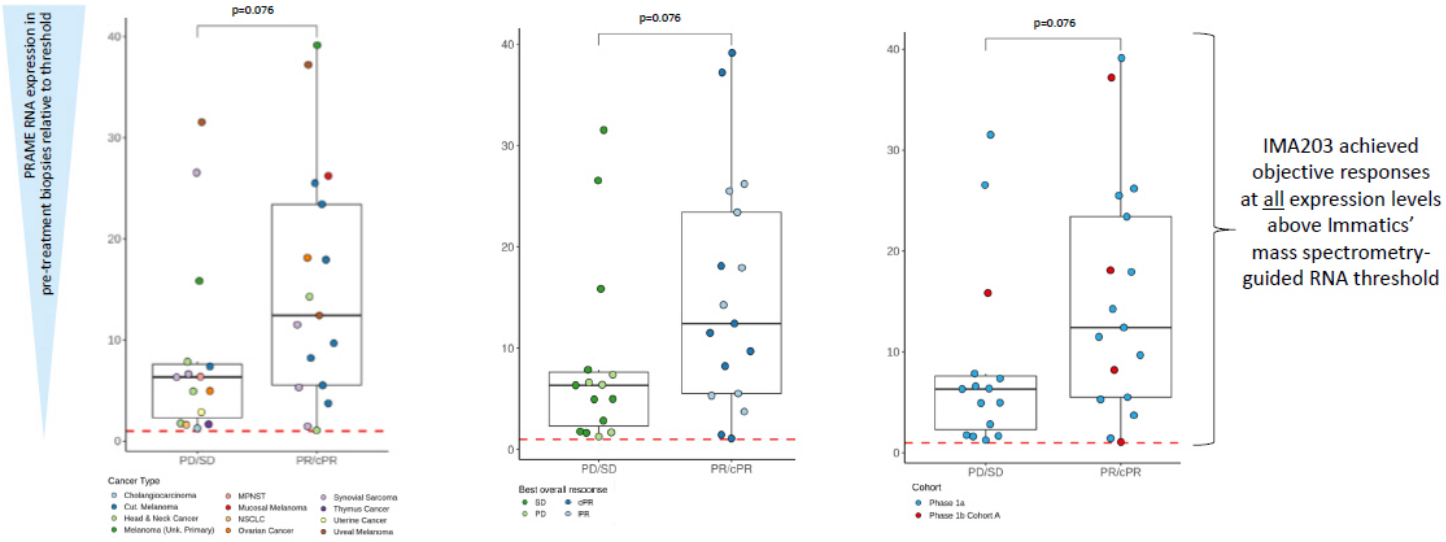


IMA203

[1]PRAME target prevalence is based on TCGA RNAseq data combined with a proprietary mass spectrometry-guided RNA expression threshold; * PRAME target prevalence in uveal melanoma based on IMADetect® qPCR testing of screening biopsies from clinical trial patients (n=21) demonstrates substantial higher prevalence of 90%, TCGA: early & late-stage primary tumor samples, Immatics clinical trials: late-stage/metastatic tumor samples, Role of PRAME in metastasis of uveal melanoma: Field *et al.* 2016 Clinical Cancer Research

PRAME Expression in Tumors from Screened Patients (N=32)

Highlighting Tumor Types (left), Type of Best Overall Response (middle) and Study Cohort (right)



IMA203 achieved objective responses at all expression levels above Immatics' mass spectrometry-guided RNA threshold

IMA203 has the potential to provide clinical benefit for all PRAME biomarker-positive cancer patients

Data cut-off – 06-Sept-2022

IMA203 TCR-T Has the Potential to Reach a Large Patient Population

~39,000 Patients per Year in the US only

Initial indications of interest based on PRAME prevalence, patient population size and observed clinical responses

Selected Indications	Incidence	R/R Incidence	PRAME Positive	Patient Population (Based on R/R Incidence; PRAME and HLA-A*02:01+)
Cut. Melanoma	99,800	7,700	95%	2,999
Uveal Melanoma	1,500	800	90%	295
Ovarian Carcinoma	19,900	12,800	80%	4,198
Uterine Carcinoma	62,700	10,700	100%	4,387
Uterine Carcinosarcoma	3,300	1,900	100%	779
Synovial Sarcoma	1,000	400	100%	164
Squamous NSCLC	57,000	34,600	65%	9,221
Small Cell Lung Cancer	31,900	19,400	55%	4,375
Cholangiocarcinoma	8,000	7,000	35%	1,005
Adeno NSCLC	91,200	55,300	25%	5,668
Breast Carcinoma	290,600	43,800	25% TNBC: 60%	4,490
HNSCC	66,500	15,100	25%	1,548

TOTAL ~39,000 annually in the US

Multiple opportunities to broaden patient reach and patient benefit:

- Expand beyond US population
- Expand into other indications such as kidney, esophageal, bladder, liver cancer, other sarcoma subtypes through indication-specific or indication-agonistic label expansion
- Move into earlier lines of therapy (R/R Incidence → Incidence)
- Inclusion of patients with lower PRAME-threshold

Incidences based on public estimates and immatics internal model; Relapsed/refractory (R/R) or last-line patient population approximated by annual mortality; Estimated 41% HLA-A*02:01 positive population in the US; PRAME target prevalence is based on TCGA (for SCLC: in-house) RNAseq data combined with a proprietary mass spec-guided RNA expression threshold; Uveal melanoma target prevalence is based on IMADetect® qPCR testing of screening biopsies from clinical trial patients (n=21)

IMA203 Monotherapy – Conclusions

ACTengine® IMA203 Targeting PRAME Offers a Unique Opportunity for Solid Cancer Patients

IMA203 monotherapy Phase 1a and Phase 1b cohort A summary:

- IMA203 continues to be well tolerated with manageable safety profile
- Confirmed responses across a broad spectrum of different solid tumor types in heavily pre-treated patients
- Positively evolving durability profile for patients treated with higher doses and in phase 1b
- Clinical validation of PRAME biomarker threshold and associated prevalences

➢ **We have clinically validated PRAME as one of the largest known T cell targets for solid cancers to date**

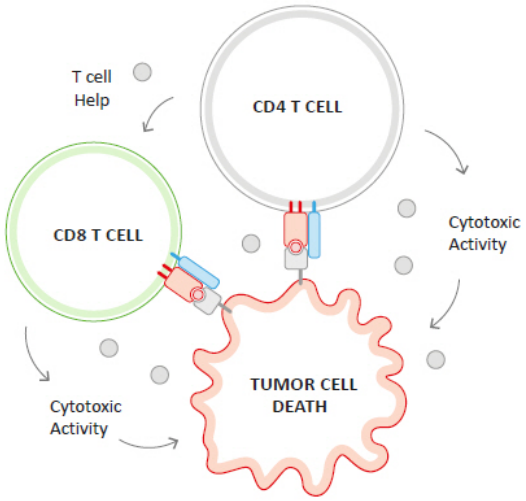
IMA203 development strategy:

- Transition to indication-specific development strategy
- Three Phase 1b expansion cohorts ongoing each designed to establish safety, evaluate the observed objective response rate, demonstrate durability & provide the trigger for registration trials

Data highlight the clinical potential of IMA203 TCR-T to achieve meaningful benefit for a large patient population

ACTengine® IMA203CD8 – Next-generation TCR-T

Building on First-Gen IMA203 Success to Further Improve Anti-Tumor Activity

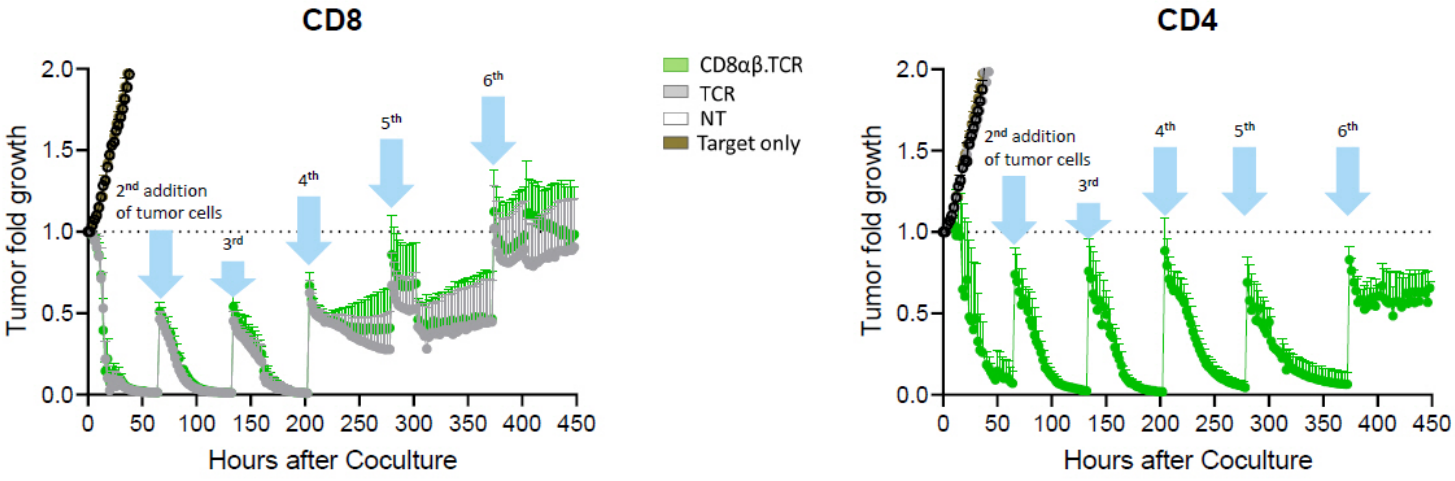


- Engagement of CD4 T cells by CD8 co-transduction reported to boost anti-tumor activity in TCR-T trials
- Recent data from leukaemia patients treated with CAR-T suggest a relevant role of engineered CD4 T cells in maintaining durable tumor responses over a long period of time[1]
- Functional superiority of the **CD8αβ** construct over multiple other CD8 constructs in preclinical experiments
- Proprietary 4-in-1 lentiviral vector to engineer CD4 and CD8 T cells with the PRAME-specific IMA203 TCR and CD8αβ construct (IMA203CD8)

[1] Melenhorst *et al.* 2022 Nature, Bai *et al.* 2022 Science Advances

ACTengine® IMA203CD8 – Preclinical Assessment of Anti-Tumor Efficacy

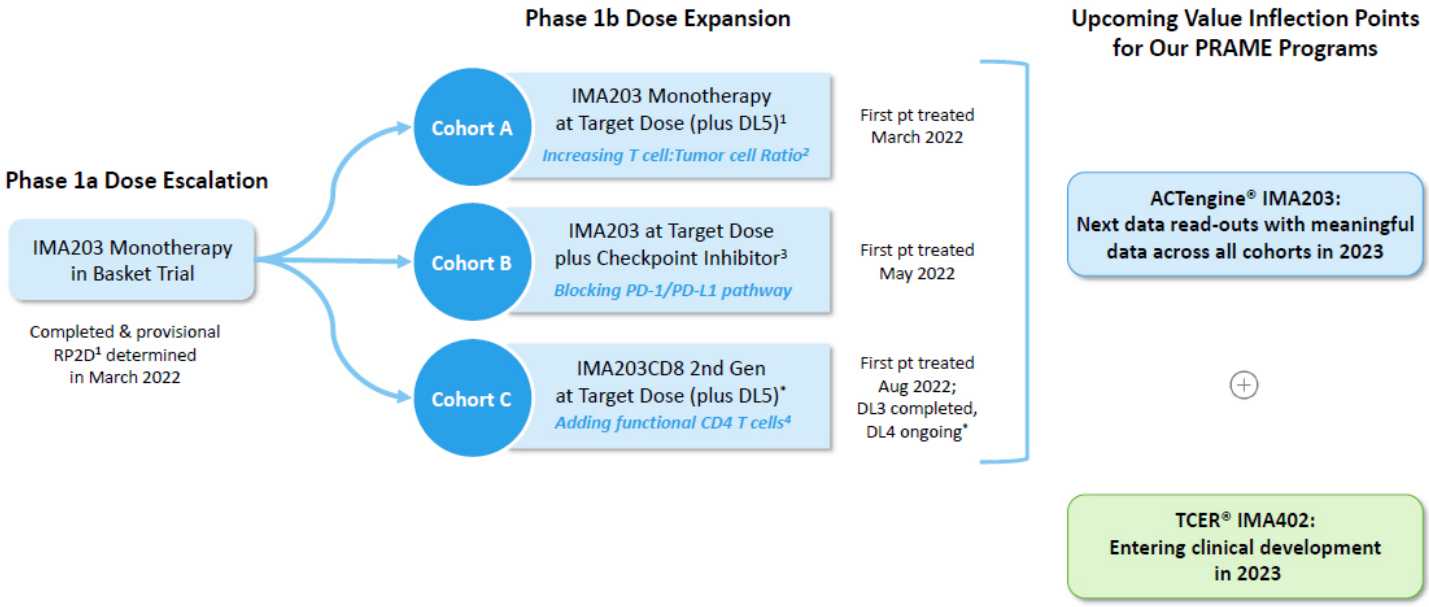
Functional CD4 T cells Mediate Longer Anti-Tumor Activity than CD8 T cells *in vitro*



Engagement of CD4 T cells may enhance depth and durability of anti-tumor response and clinical outcome of TCR-T in solid cancer patients

Comprehensive PRAME Strategy

To Deliver Meaningful Clinical Benefit to Patients with PRAME-positive Cancers



[1] RP2D (target dose) determined at DL4, exploration of higher dose (DL5) ongoing; [2] Demonstrated to be associated with durable response: Locke *et al.* 2020 Blood Advances; [3] Opdivo® (nivolumab): programmed death-1 (PD-1) immune checkpoint inhibitor; * Treatment of n=3 patients at DL3 completed, enrollment at Target Dose DL4 ongoing, exploration of higher dose (DL5) planned; [4] Demonstrated to be important for long-term remission: Melenhorst *et al.* 2022 Nature, Bai *et al.* 2022 Science Advances

ACTengine® IMA201 and IMA204 – TCR-T Targeting MAGEA4/8 and COL6A3

ACTengine® IMA201 Targeting MAGEA4/8

Key Features

TARGET

HLA-A*02-presented peptide derived from **MAGEA4 and/or MAGEA/8**

>5-fold higher peptide copy number per tumor cell than a commonly used MAGEA4 target

Naturally and specifically presented on tumors at high target density[1]: **100-1,000 copies/cell**

Identified and validated by XPRESIDENT® quant. mass spectrometry platform

TCR

High-affinity, specific TCR targeting MAGE4/8

High functional avidity[2]: **EC50 ~10 ng/ml**

Identified and characterized by XCEPTOR® TCR discovery and engineering platform

CLINICAL DATA

Dose escalation ongoing, target dose level to commence

Too early for assessment of safety or anti-tumor activity

PATIENT POPULATION[3]

Sarcoma Subtypes – up to 80%
Squamous NSCLC – 50%
HNSCC – 35%
Bladder Carcinoma – 30%
Esophageal Carcinoma – 25%
Uterine Carcinosarcoma – 25%
Ovarian Carcinoma – 20%
Melanoma – 20%

Status – 02-June-2022

[1] Target density: peptide copy number per tumor cell, approximate range representing the majority of tumor samples analyzed; [2] Functional avidity: EC50 half maximal effective concentration;
[3] Solid cancer indications with 20% or more target expression, Target prevalence for selected cancer indications based on mRNA expression (TCGA and Immatics inhouse data)

ACTengine® IMA204 First-in-Class TCR-T Targeting Tumor Stroma

Key Features

TARGET

HLA-A*02-presented peptide derived from **COL6A3 exon 6**

Naturally and specifically presented on tumors at high target density[1]: **100-700 copies/cell**

Novel **tumor stroma target** identified and validated by XPRESIDENT® quant. mass spectrometry platform

TCR

High-affinity, specific TCR targeting COL6A3 exon 6

Affinity-maturated, CD8-independent TCR

High functional avidity[2]: **~0.01ng/ml**

Identified and characterized by XCEPTOR® TCR discovery and engineering platform

PRECLINICAL DATA

CD8-independent, next-generation TCR engages both, CD8 and CD4 T cells

In vitro anti-tumor activity against target-positive cell lines in CD8 and CD4 T cells

Complete tumor eradication in *in vivo* mouse models

PATIENT POPULATION[3]

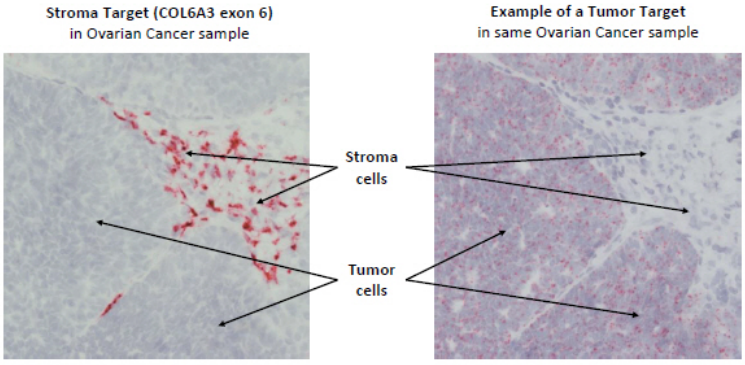
Pancreatic Carcinoma – 80%
Breast Carcinoma – 75%
Stomach Carcinoma – 65%
Sarcoma – 65%
Esophageal Carcinoma – 60%
Squamous NSCLC– 55%
Adeno NSCLC– 55%
HNSCC – 55%
Uterine Carcinosarcoma – 55%
Colorectal Carcinoma – 45%
Mesothelioma – 45%
Cholangiocarcinoma – 40%
Ovarian Carcinoma – 40%
Melanoma – 35%
Bladder Carcinoma – 35%

IMA204 provides a promising therapeutic opportunity for a broad patient population as monotherapy or in combination with TCR-T cells directed against tumor targets

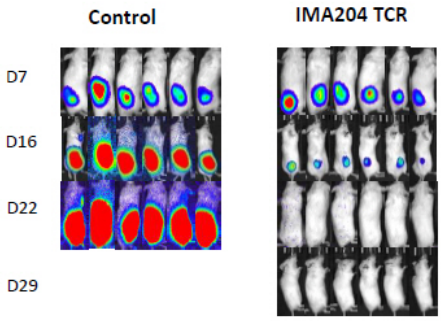
[1] Target density: peptide copy number per tumor cell, approximate range representing the majority of tumor samples analyzed; [2] Functional avidity: EC50 half maximal effective concentration;
[3] Solid cancer indications with 20% or more target expression, Target prevalence for selected cancer indications based on mRNA expression (TCGA and Immatics inhouse data)

ACTengine® IMA204 – High Affinity, CD8-independent TCR

Complete Tumor Eradication *in vitro & in vivo*[1] by Affinity-enhanced IMA204 TCR



COL6A3 exon 6 prevalently expressed at high target density in tumor stroma across many solid cancers



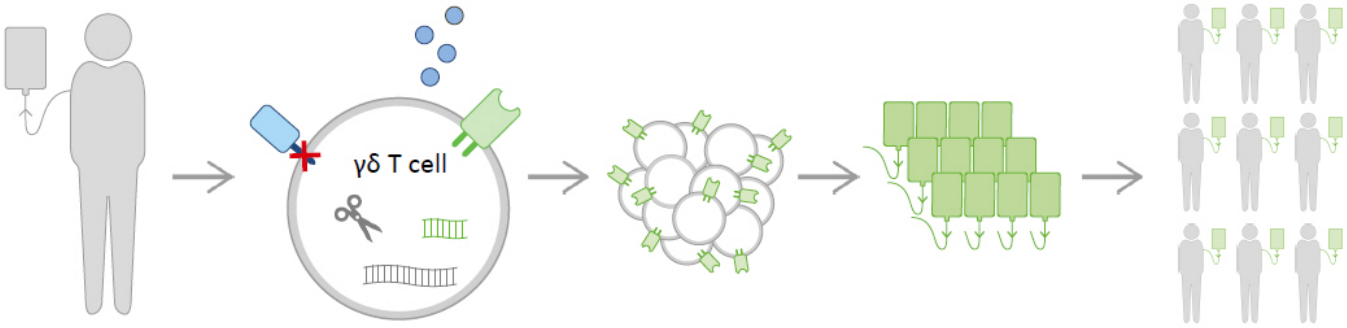
CD8-independent TCR leads to tumor eradication in all mice treated

Affinity maturated CD8-independent, next-generation TCR engages both CD4 and CD8 T cells without the need of CD8 co-transduction

[1] *In vivo* data in collaboration with Jim Riley, University of Pennsylvania, control: non-transduced T cells. TCR avidity and specificity data not shown, available in IMA204 presentation on Immatics website.

ACTallo® – Our Next-generation Off-the-shelf TCR-T

ACTallo® – Immatics' Allogeneic Cell Therapy Approach



γδ T cell Collection from Healthy Donor

Cell Engineering (gene editing & armoring)

Expansion

Off-the-shelf Products

Patient Treatment

- **Off-the-shelf cell therapy**, no need for personalized manufacturing → reduced logistics and time to application
- **Potential for hundreds of doses** from one single donor leukapheresis → lower cost of goods
- **Use of healthy donor material** provides standardized quality and quantity of starting material

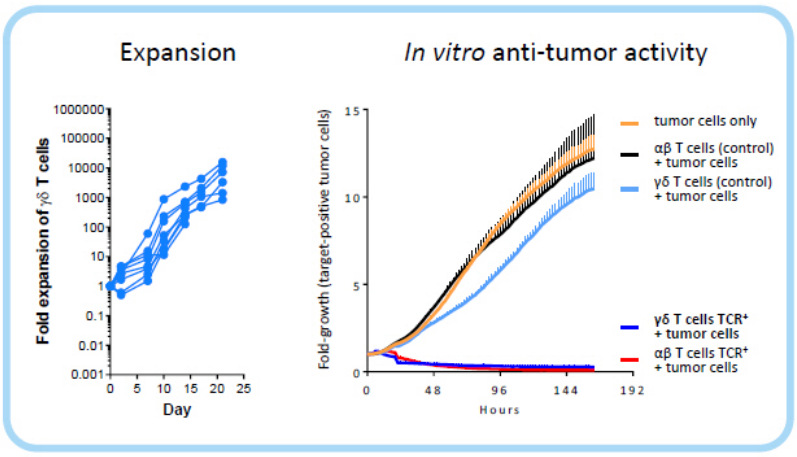
- Strategic collaborations combining Immatics' proprietary ACTallo® platform with Bristol Myers Squibb's next-gen technologies and Editas Medicine's CRISPR gene editing technology to develop next-gen allogeneic γδ TCR-T/CAR-T programs

Why γδ T cells?

γδ T cells Are Well Suited for an Off-the-shelf Cell Therapy Approach

γδ T cells

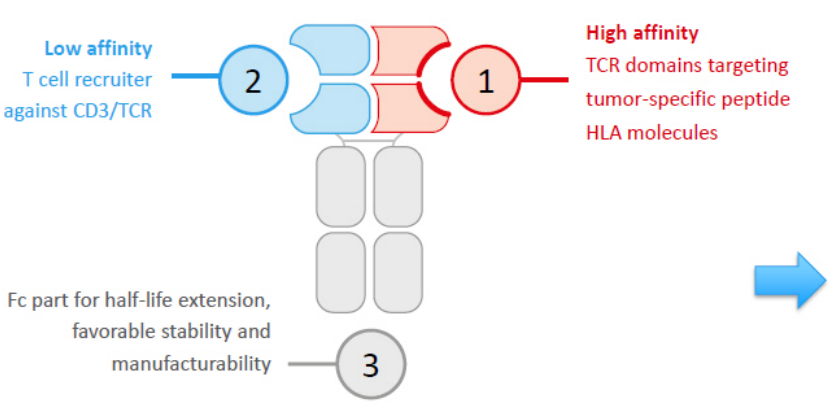
- ✓ are abundant in the peripheral blood
- ✓ show intrinsic anti-tumor activity
- ✓ naturally infiltrate solid tumors & correlate with favorable prognosis
- ✓ are HLA-independent, thus do not cause graft-vs-host disease in allogeneic setting
- ✓ can be expanded to high numbers in a cGMP-compatible manner
- ✓ can be effectively redirected using αβ TCR or CAR constructs

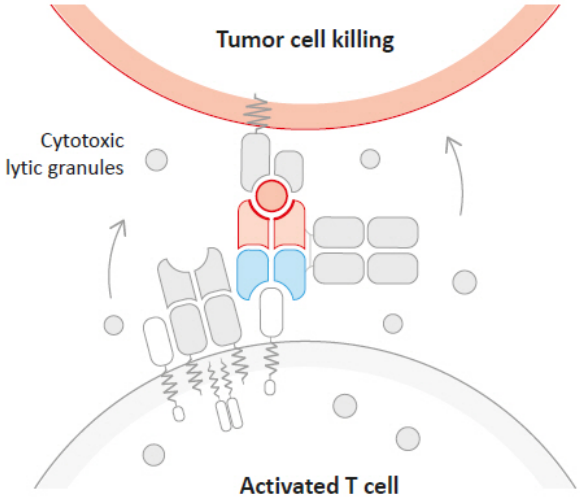


TCER® – TCR Bispecifics

TCER® – Immatics' Next-generation, Half-Life Extended Bispecifics

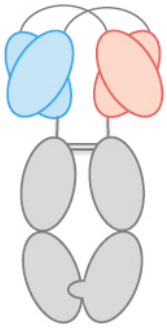
Proprietary TCER® Format Consisting of Three Distinct Elements





Next-gen, half-life extended TCER® format designed to
→ safely apply high drug doses for activity in a broad range of tumors
→ achieve optimized scheduling

TCER® – Immatics' Next-generation, Half-Life Extended Bispecifics



1 **pHLA targeting TCR**

- ✓ **High-affinity** (single digit nM) TCR targeting HLA-restricted tumor-specific peptides
- ✓ Broad therapeutic window through **XPRESIDENT®-guided** affinity maturation (>1000x)[1]
- ✓ **Complete tumor eradication** in mouse xenograft models at low doses

2 **T cell recruiting antibody**

- ✓ **Low-affinity** (triple digit nM) T cell recruiter against both **TCR & CD3**
- ✓ **Optimized biodistribution** aiming for enrichment at tumor site and **prevention of CRS**[2]
- ✓ **Superior anti-tumor activity** in mouse models as compared to widely used CD3 recruiters

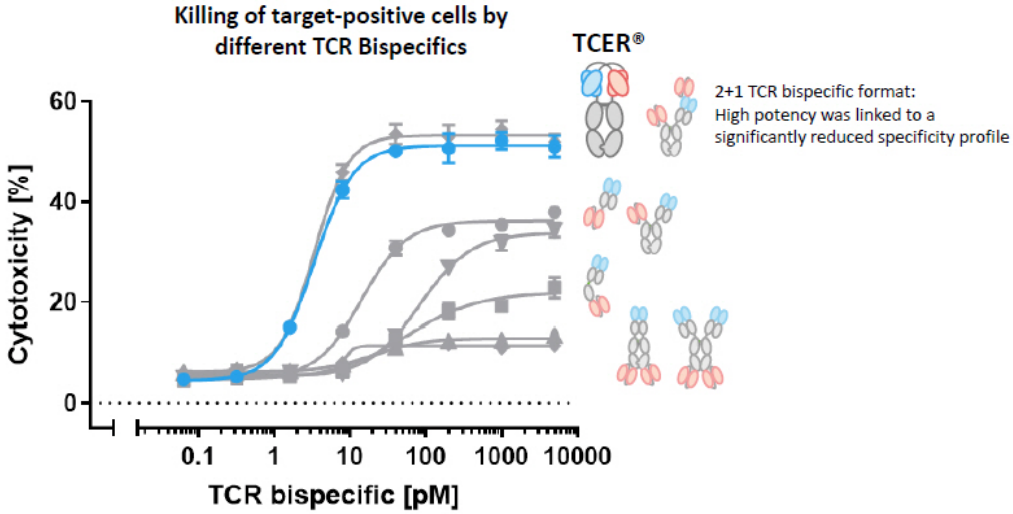
3 **Next-generation TCER® format**

- ✓ Off-the-shelf biologic with antibody-like manufacturability[3] and low cost of goods
- ✓ Superior anti-tumor activity[4] compared to six alternative bispecific formats
- ✓ Half-life of several days expected in humans

Our TCER® format is designed to maximize efficacy while minimizing toxicities in patients

[1] As compared to natural TCR; [2] Based on literature data for other low-affinity recruiters (e.g. Harber *et al.*, 2021, Nature; Trinklein *et al.*, 2019, mAbs);
[3] Production in mammalian cells (CHO cells); [4] Based on preclinical testing

Potency of Our Proprietary TCR Bispecific Format TCER®



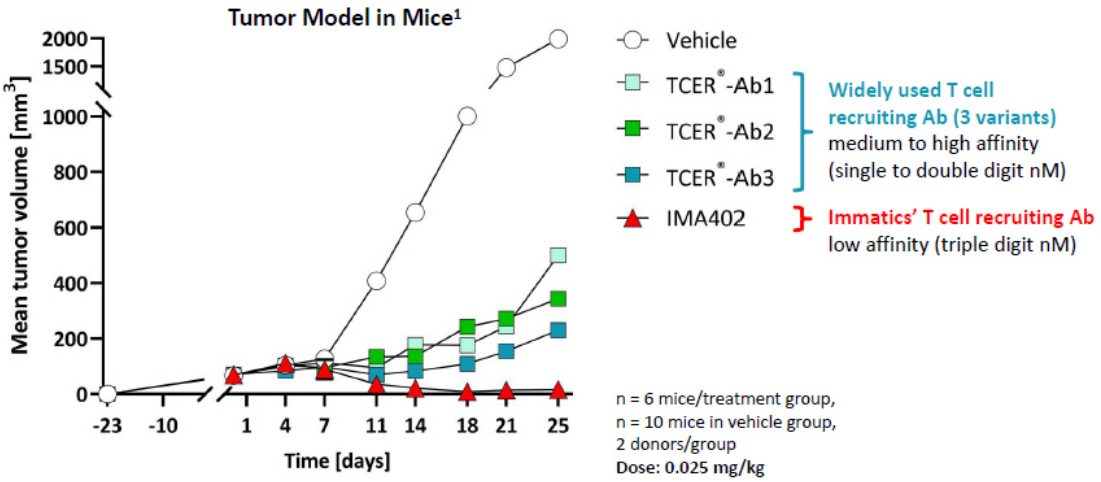
- Seven different TCR Bispecific formats were evaluated with a pHLA targeting TCR and the identical T cell recruiting antibody
- TCER® format had higher combination of potency and specificity[1] than six alternative TCR Bispecific format designs evaluated

Flexible Plug-and-play platform: TCER® format successfully validated for different TCRs & different T cell recruiting antibodies

[1] Preclinical data on specificty not shown

TCER® Format Is Designed for Optimized Efficacy and Safety

Superior Tumor Control Using a Novel, Low-Affinity Recruiter

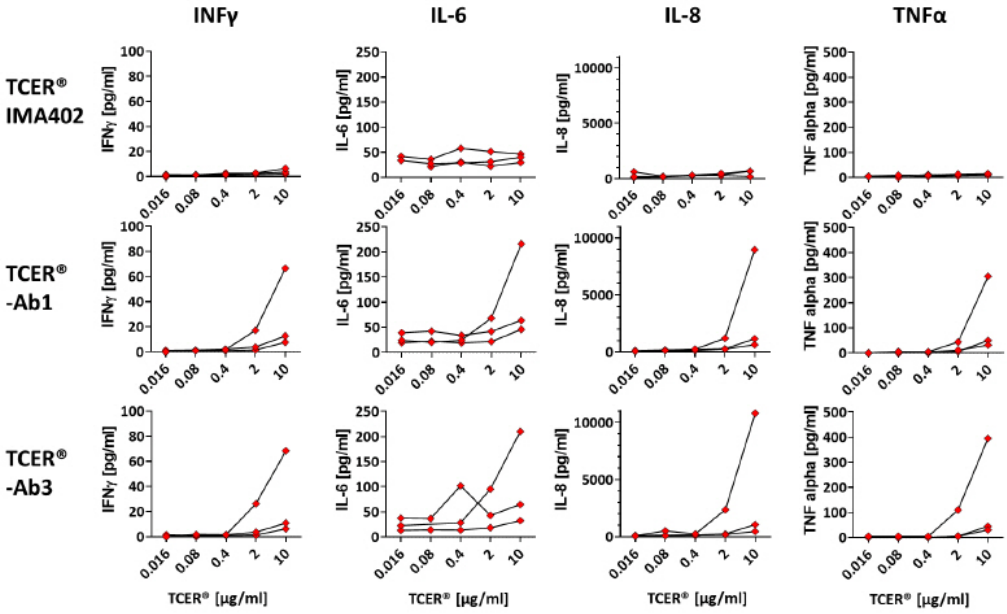


Proprietary, **low-affinity T cell recruiting region** demonstrates superior tumor control compared to analogous TCER® molecules designed with higher-affinity variants of a widely used recruiter

[1] Hs695T xenograft model in NOG mice, tumor volume of group means shown

TCER® Format Is Designed for Optimized Efficacy and Safety

Reduced Target-Unrelated Recruiter-Mediated Cytokine Release using a Low-Affinity Recruiter



Whole blood cytokine release assay
N=3 HLA-A*02-positive donors
N=16 cytokines tested,
4 exemplary cytokines shown

Our TCER® Portfolio

Broad Pipeline of Next-Gen Half-Life Extended TCR Bispecifics

IMA401 (Bristol Myers Squibb)
- MAGEA4/8 peptide presented by HLA-A*02:01
- Start of clinical trial in May 2022, **dose escalation ongoing**

IMA402
- PRAME peptide presented by HLA-A*02:01
- Start of clinical trial planned for 2023

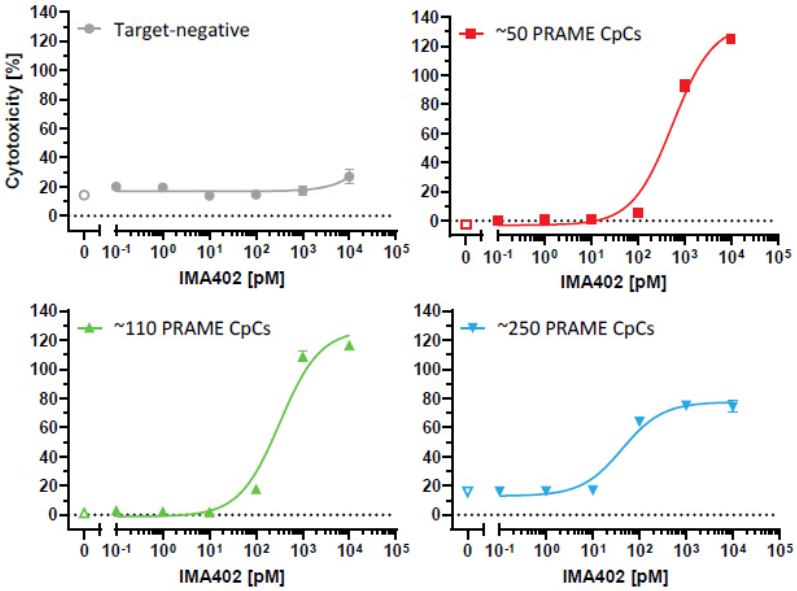
IMA403
- Undisclosed peptide presented by HLA-A*02:01
- Preclinical PoC studies ongoing

IMA40x
Several innovative programs
- Undisclosed peptides presented by HLA-A*02:01 and other HLA-types
- TCER® engineering and preclinical testing ongoing

Potential for addressing different indications and large patient populations with novel, off-the-shelf TCR Bispecifics

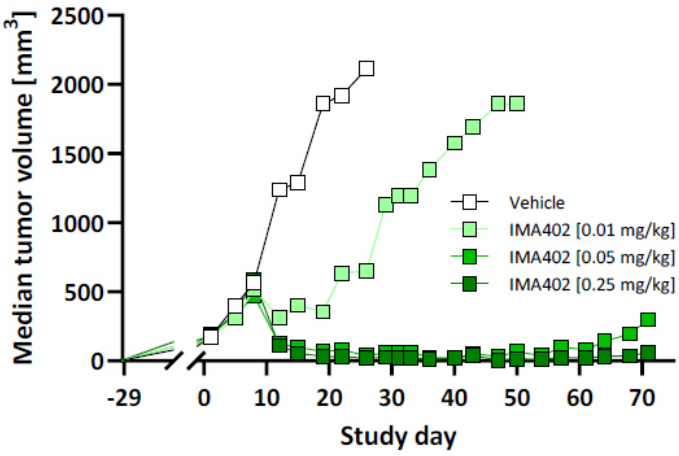
TCER® IMA402 Targeting PRAME – Efficacy Assessment *in vitro*

Tumor Cell Killing at Low Physiological PRAME Peptide Levels



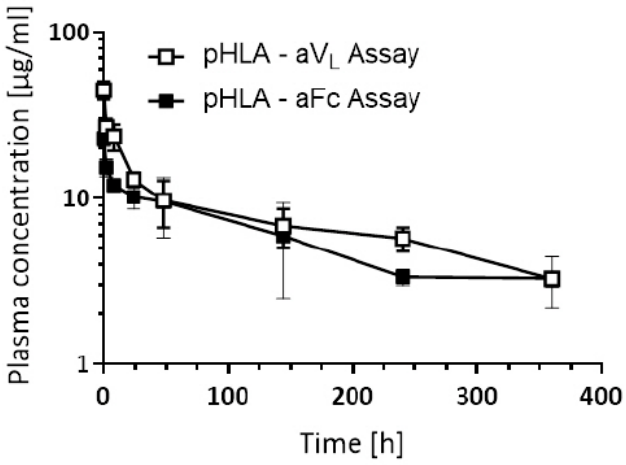
- TCER® IMA402 induces killing of tumor cells with PRAME target copies as low as 50 CpCs
- Physiological PRAME levels detected in majority of cancer tissues from patients are 100 – 1000 CpCs
- Preclinical activity profile enables targeting of a broad variety of tumor indications, such as lung cancer, breast cancer, ovarian cancer, uterine cancer, melanoma and others

TCER® IMA402 Achieves Durable Tumor Control of Large Tumors *in vivo*

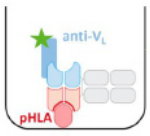


- Dose-dependent efficacy of IMA402 in cell line-derived *in vivo* mouse model
- Durable shrinkage of large tumors including complete responses over prolonged period
- Sufficiently high drug doses are key to achieving desired anti-tumor effect

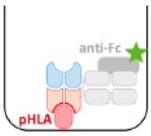
Half-life Extended Format of IMA402 Confers Terminal Half-life of >1 Week



pHLA – aV$_L$ Assay



pHLA – aFc Assay



- IMA402 shows a terminal serum half-life of ≈ 8 days in mice
- IMA402 will be initially dosed weekly in the clinical trial
- Dosing frequency may be adapted based on clinical data

Advancing TCER® IMA402 Towards Clinical Development

Recent and Upcoming Activities

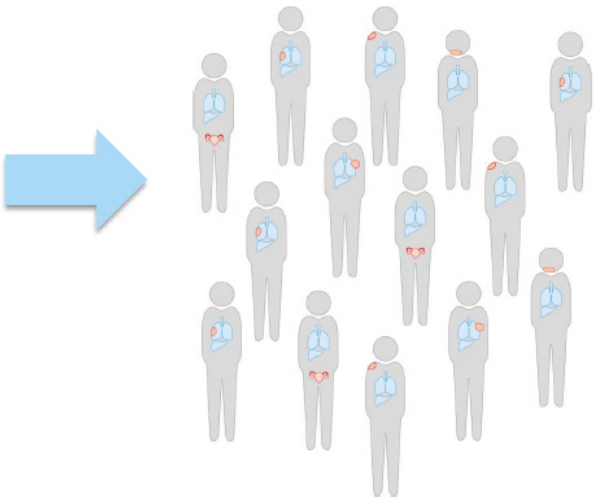
Recent activities

- ✓ Completion of IND-enabling data package
- ✓ Manufacturing of GMP batch completed with high titer (>3.5 g/L) and high yield
- ✓ Scientific advice with regulatory authorities

Upcoming activities

- CTA/IND submission planned for 2Q 2023
- Start of patient treatment planned in 2023

IMA402 TCER® Ph1/2 clinical trial in patients with solid tumors



TCER® IMA402 Phase 1/2 Clinical Trial to Start in 2023

Trial Overview

Phase 1/2 clinical trial to evaluate safety, tolerability and anti-tumor activity of IMA402

HLA-A*02:01-positive patients with PRAME-expressing recurrent and/or refractory solid tumors

Phase 1: Dose Escalation

Adaptive design aimed at accelerating dose escalation

MTD/ RP2D

Basket trial with focus indications

Phase 2a: Dose Expansion

Expansion cohort

Expansion cohort

Expansion cohort

- Specific indications plus ongoing basket
- Combination therapies
- Optional dose/application optimization

Accelerated Development of TCER® IMA402

TCER® IMA402 Phase 1/2 Clinical Trial Design

1 Optimized patient selection to leverage the broad PRAME potential

Assuring sufficient PRAME target expression using our IMADetect® qRT-PCR assay (mass spectrometry-guided RNA threshold)

- No pretesting for indications with very high PRAME prevalence, e.g. melanoma, uterine & ovarian cancer, synovial sarcoma
- Prospective target testing for indications with PRAME prevalence <80%, e.g. lung cancer, breast cancer, head and neck cancer

2 Flexible trial design for fast clinical execution

- Adaptive design with flexible dose cohorts, initially only 1-3 patients per dose level, optimized MABEL approach with elevated starting dose, short DLT period of 2 weeks
- Basket trial in focus indications for accelerated signal finding, multiple options for expansion cohorts
- Extension from phase 1/2 to pivotal possible

3 Targeting enhanced treatment convenience

- Initially weekly i.v. infusions, potential for early optimization of scheduling based on half-life extended TCER® format
- Exploring s.c. application

Immatics' Proprietary Target and TCR Discovery Platforms

True Cancer Targets & Matching Right TCRs

Goal to Maximize Anti-Tumor Activity and Minimize Safety Risks of TCR-based Immunotherapies

True Targets via XPRESIDENT® technology platform

- are naturally presented on tumor tissues as identified by mass-spec
- are absent or presented at only low levels on normal tissues
- are presented at high copy numbers to trigger a pharmacological response

Right TCRs via XCEPTOR® technology platform

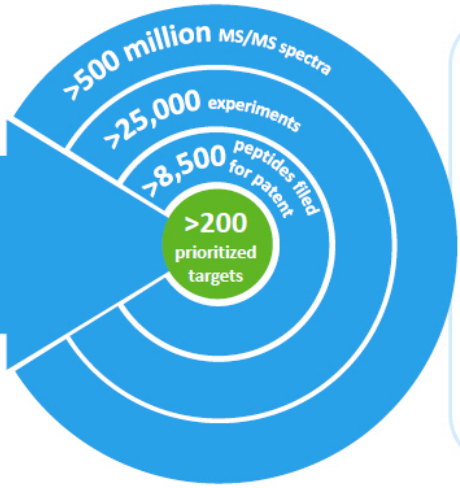
- recognize the target peptide with high affinity and specificity
- show selective killing of tumor cells
- are developed to be suitable for two different therapeutic modalities, Cell Therapies and TCR Bispecifics

Pool of 200 Prioritized Targets as Foundation for Future Value Generation

pHLA Database

based on primary tissues

>2,500 cancer & normal tissues analyzed by Quantitative, Ultra-Sensitive Mass Spectrometry



200 Prioritized Targets

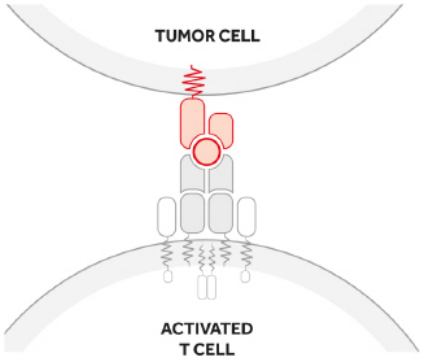
Grouped in 3 Target Classes:

1. **Well known and characterized parent protein (20%)**
   e.g. MAGE family cancer testis antigens
2. **Unknown or poorly characterized parent protein (60%)**
   e.g. stroma target COL6A3 exon 6
3. **Crypto-targets/Neoantigens (20%)**
   Novel target class which includes RNA-edited peptides & non-classical neoantigens

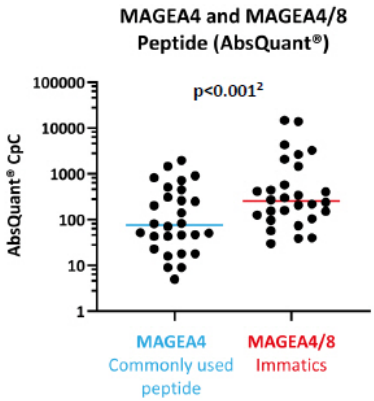
~50% of our prioritized targets are non-HLA-A*02 restricted, substantially broadening the potential patient reach

Immatics' Unique Capability – Identification of the most Relevant Target

Example of MAGEA4/8 Peptide Target



Ranking of pHLA targets



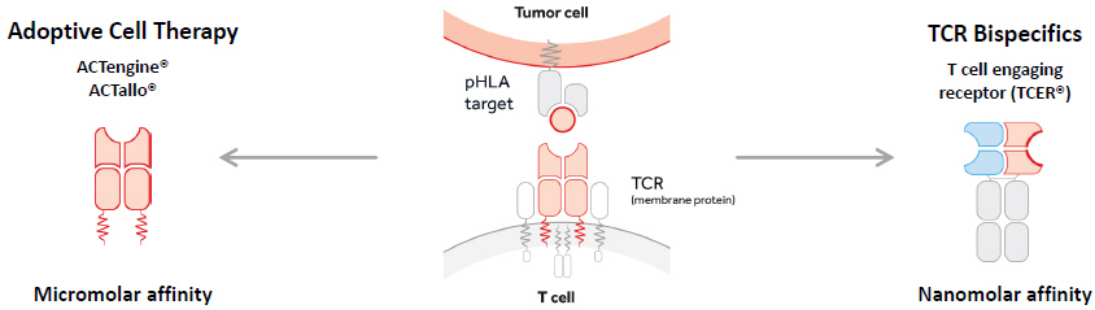
XPRESIDENT® quantitative information on target density¹ between peptides originating from the same source protein

MAGEA4/8 target is presented at >5-fold higher target density¹ than a commonly used MAGEA4 target peptide

¹ Copy number per tumor cell (CpC) measured on a paired-sample basis by AbsQuant®, i.e. comparing MAGEA4 vs. MAGEA4/A8 peptide presentation on same sample, ² Students paired T test

Development of the Right TCR – XCEPTOR® Technology

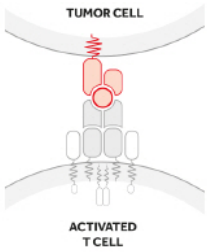
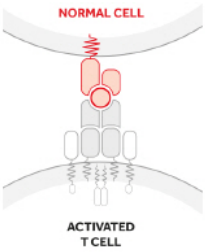
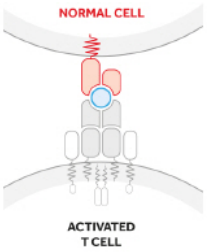
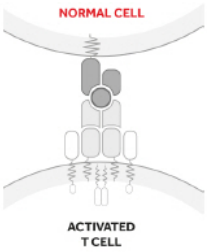
TCR Discovery and Engineering for ACT and TCR Bispecifics



- Fast, efficient and highly sensitive discovery of highly specific, natural TCRs
- Protein engineering capabilities to design and maturate TCRs with increased affinity while retaining specificity
- Early de-selection of cross-reactive TCRs by the unique interplay between Immatics' target and TCR discovery platforms XPRESIDENT® and XCEPTOR® during TCR discovery[1] and TCR maturation[2]

Optimal Target Selection & TCR Specificity for Minimizing Safety Risks

Unique Interplay between Technology Platforms Allows Early De-risking for Clinical Development

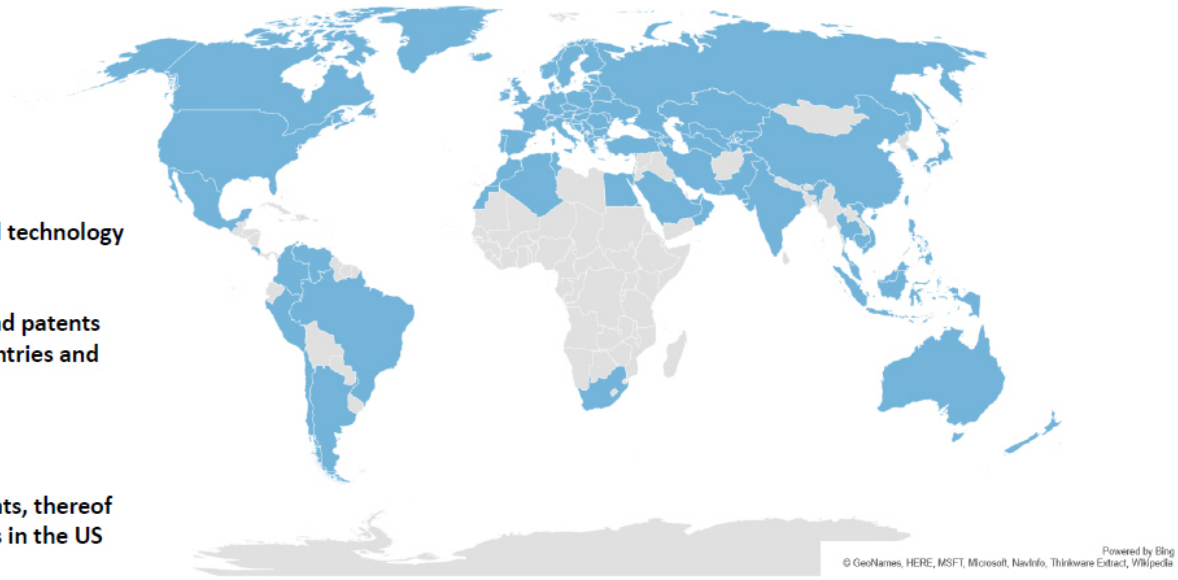
Target peptide presented on tumor cells	Target peptide presented on normal cells	Similar peptide presented on normal cells[1]	A different HLA is recognized on normal cells
			
Selective killing of tumor cells	On-target (off-tumor) toxicity	Off-target toxicity	Alloreactivity

XPRESIDENT®-guided screening for on- and off-target toxicities of TCRs based on the extensive database of peptides presented on normal tissues

[1] Clinical fatalities have occurred in TCR-T trials using a titin cross-reactive TCR (Cameron *et al.*, Sci Transl Med)

Robust IP Portfolio

Immatics' Patent Estate – Territorial Coverage



Cancer targets, TCRs and technology protected by:

- **5,800 applications and patents filed in all major countries and regions**
- **>115 patent families**
- **>2,000 granted patents, thereof >550 granted patents in the US**

Corporate Information & Milestones

Experienced Global Leadership Team Across Europe and the US

Harpreet Singh
Chief Executive Officer
Co-Founder
>20 yrs biotech experience

Arnd Christ
Chief Financial Officer
>20 yrs biotech experience
(InflaRx, Medigene, NovImmune, Probiodrug)

Carsten Reinhardt
Chief Development Officer
>20 yrs pharma & biotech experience
(Micromet, Roche, Fresenius)

Cedrik Britten
Chief Medical Officer
>14 yrs pharma & biotech experience
(GSK, BioNTech)

Rainer Kramer
Chief Business Officer
25 yrs pharma & biotech experience
(Amgen, MorphoSys, Jerini, Shire, Signature Dx)

Steffen Walter
Chief Technology Officer
Co-Founder Immatics US
>15 yrs biotech experience

Toni Weinschenk
Chief Innovation Officer
Co-Founder
>15 yrs biotech experience

Edward Sturchio
General Counsel
>15 yrs pharma & biotech experience
(Abeona Therapeutics, AAA, Novartis, Merck, Schering

Jordan Silverstein
Head of Strategy
>10 yrs biotech experience
(InflaRx, AAA)

Strong, Focused and Highly Integrated Trans-Atlantic Organization

Delivering

the Power of T cells to Cancer Patients

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