



The global leader in developing LAG-3 therapeutics

Corporate Presentation
January 2020

(ASX: IMM, NASDAQ: IMMP)

Notice: Forward Looking Statements

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Company Snapshot

- Global leadership position in **LAG-3**
- Four **LAG-3** related candidates in **immuno-oncology** and **autoimmune diseases**
- Partnerships with five of the world’s largest pharmaceutical companies – **Novartis, GSK, Merck (MSD), Pfizer & Merck KGaA**
- **Decisive data (from two Phase II trials) in Q1 2020** from lead program

Financial Snapshot

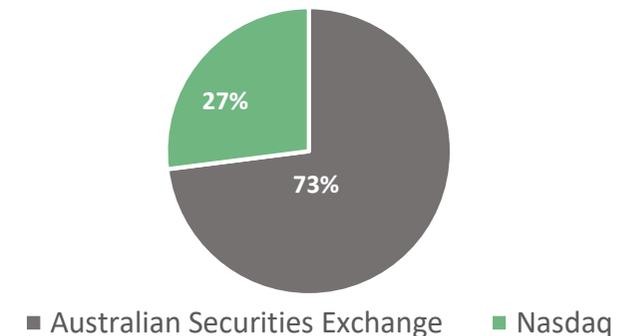
Ticker symbols	IMM (Australian Securities Exchange) IMMP (NASDAQ)
Securities on issue⁽¹⁾ (as at 6 January 2020)	391.6 million ordinary shares
Cash & Term Deposits (as at 31 December 2019)	~A\$20.5 million (US\$14.4 million)
Market Cap⁽²⁾ (as at 6 January 2020)	A\$103 million (US\$71.6 million)

Notes:

(1) Currently ~27% of the ordinary shares are represented by ADSs listed on NASDAQ where 1 ADS represents 10 ordinary shares.

(2) Market capitalization based on ASX share price. For a detailed summary of all securities on issue refer to latest Appendix 3B released on ASX.

Shareholder Base



Directors & Officers



Russell J. Howard, PhD, Non-Executive Chairman

Scientist, executive manager and entrepreneur; previously CEO of Maxygen & Oakbio, positions at NIH, DNAX, Affymax

Pete A Meyers, Non-Executive Director & Deputy Chairman

Current Chief Financial Officer of Eagle Pharmaceuticals, Inc.; previously CFO of Motif Bio; previously Co-Head of Global Health Care Investment Banking at Deutsche Bank



Grant Chamberlain, Non-Executive Director

20+ years in investment banking; current principal of One Ventures; previously Head of Mergers and Acquisitions and Financial Sponsors Australia at Bank of America Merrill Lynch

Marc Voigt, Executive Director & Chief Executive Officer

20+ years in leading positions in finance, venture capital and biotech industry, multiple financing & licensing transactions



Prof. Frédéric Triebel, MD PhD, Chief Scientific Officer & Chief Medical Officer

Clinical haematologist, and PhD in immunology (Paris University) and successfully developed several research programs in immunogenetics and immunotherapy, leading to over 144 publications and 16 patents

Deanne Miller, Chief Operating Officer, General Counsel & Company Secretary

Lawyer; previous positions at RBC Investor Services, Westpac, Macquarie and ASIC



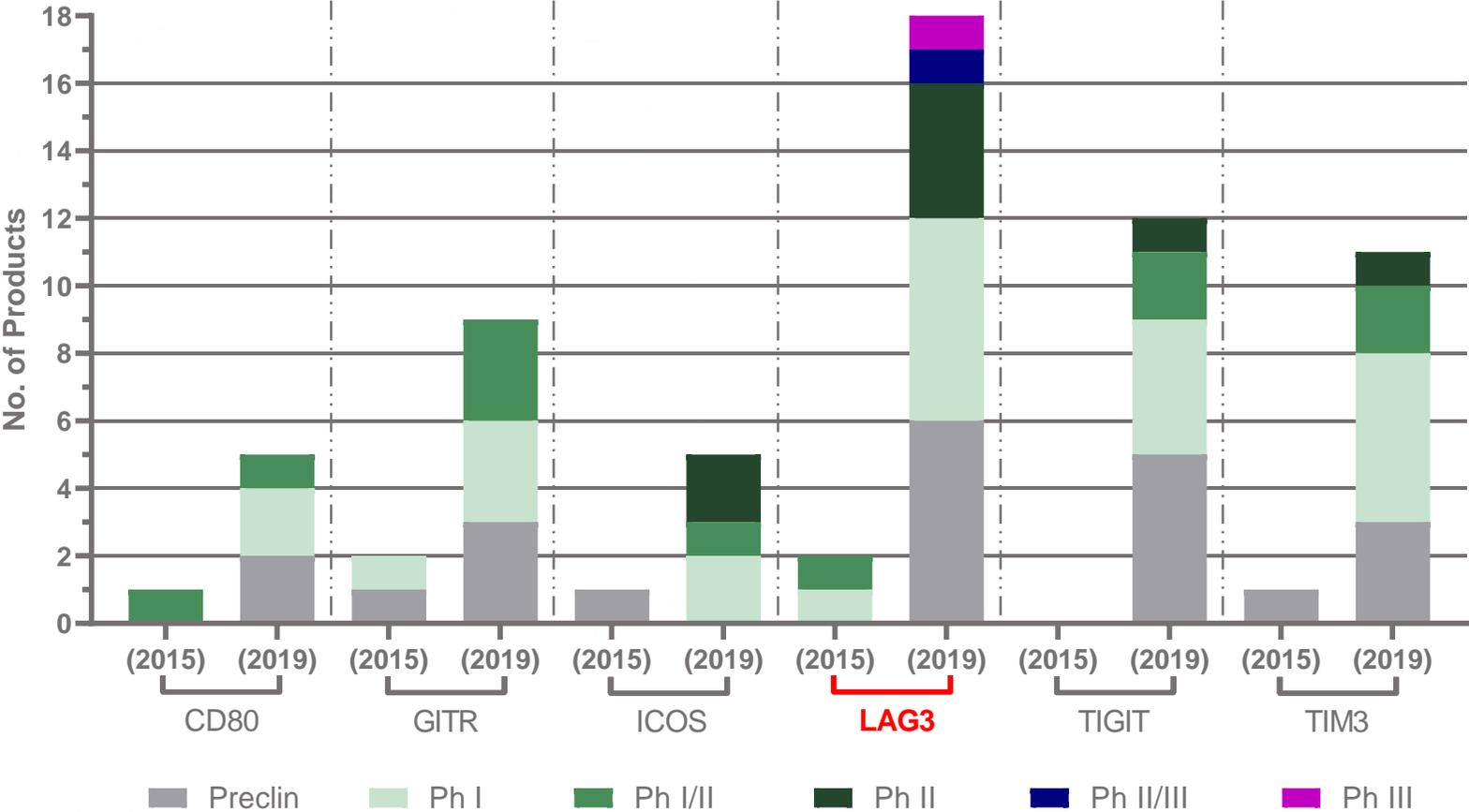
LAG-3 Overview

- the most promising immune
checkpoint -

Immune Checkpoint Landscape beyond PD-1 and CTLA-4

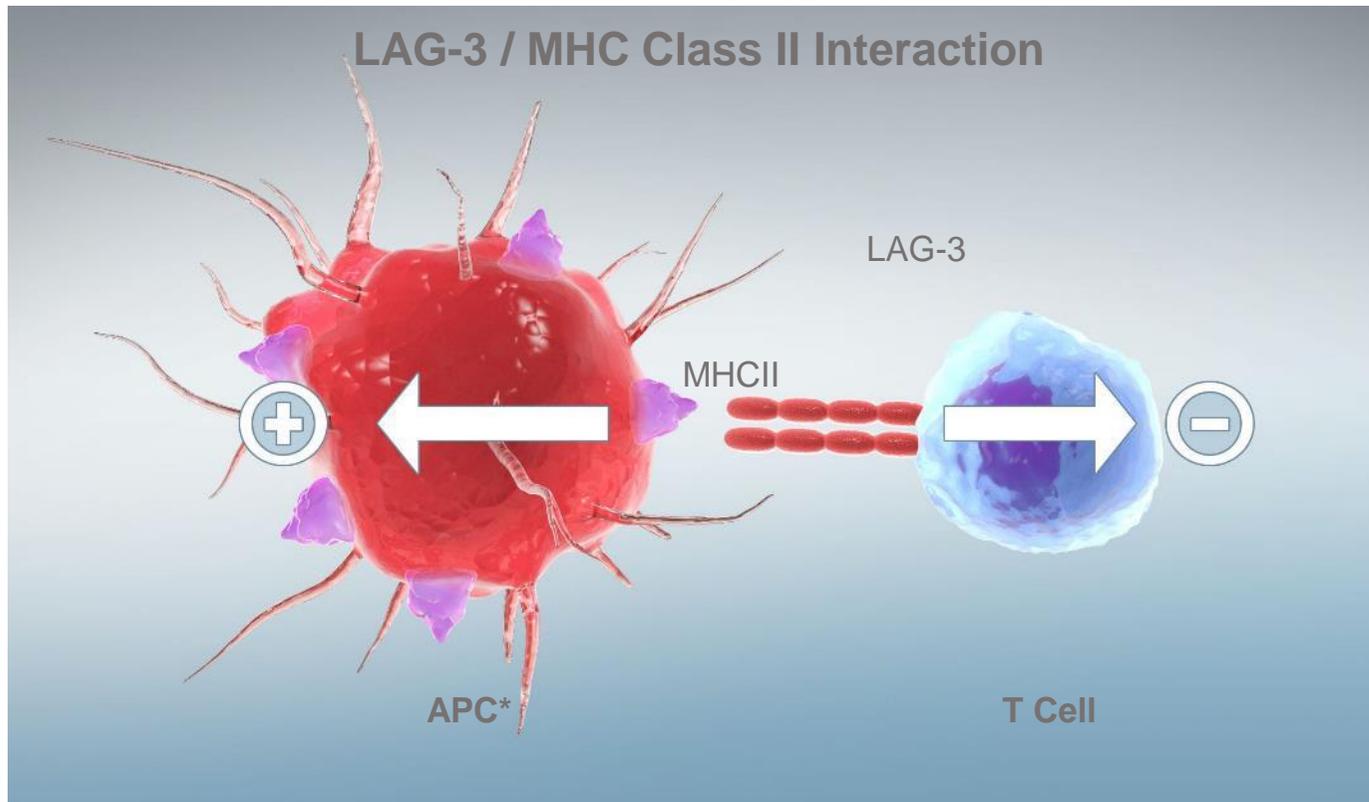


2015 and 2019



LAG-3 as a Therapeutic Target

LAG-3, an immune checkpoint, is widely expressed on tumor infiltrating lymphocytes (TILs) and cytotoxic T cells → **Prime target for immune therapy**



→ **Positive regulation** of antigen presenting cells (APCs) → increase in antigen presentation to cytotoxic CD8⁺ T cells

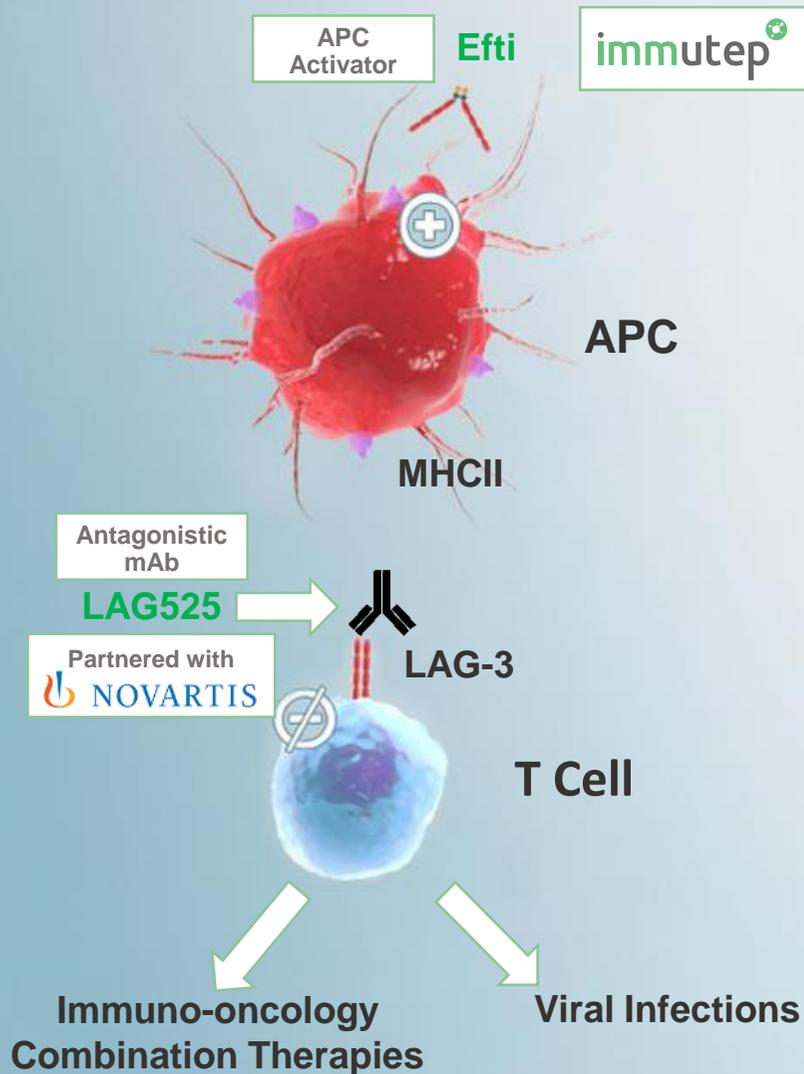


→ **Negative regulation** of LAG-3⁺ T Cells

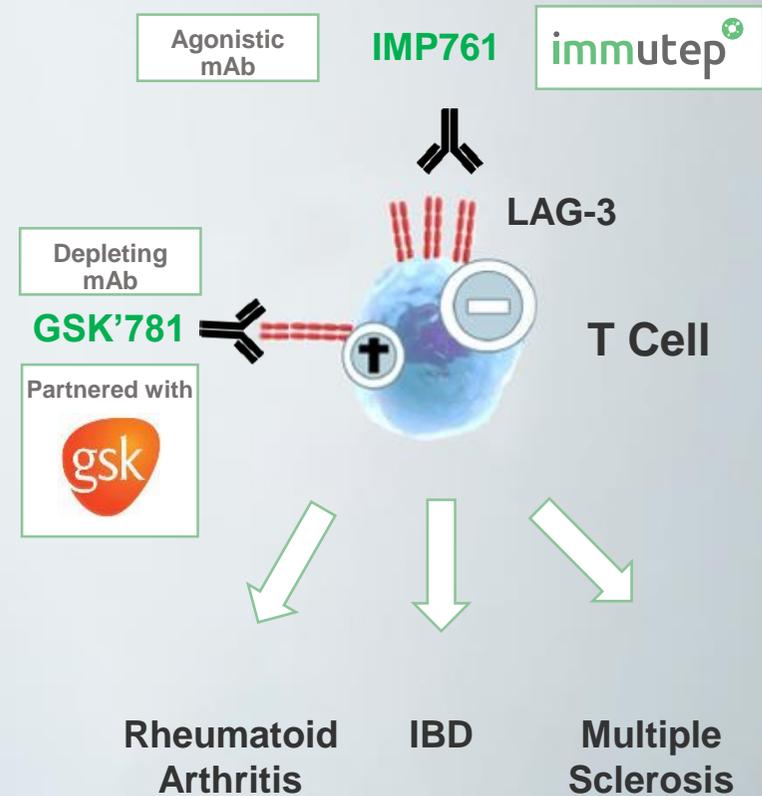


Targeting LAG-3 / MHC II may lead to multiple therapeutics in numerous indications

IMMUNOSTIMULATION



IMMUNOSUPPRESSION



Immutep Controlled Immunotherapy Pipeline*



Program	Preclinical	Phase I	Phase II	Late Stage ⁽⁴⁾	Commercial Rights	Market Size ⁽⁵⁾ (by)	
Oncology Eftilagimod Alpha (IMP321) APC activating soluble LAG-3 protein	Metastatic Breast Cancer (Chemo – IO) AIPAC				Global Rights 	US\$12.7 billion (2024)	
	Non-Small-Cell Lung Carcinoma (IO – IO) ⁽¹⁾ TACTI-002					US\$33.9 billion (2026)	
	Head and Neck Squamous Cell Carcinoma (IO – IO) ⁽¹⁾ TACTI-002					US\$2.8 billion (2026)	
	Solid Tumors (IO – IO) ^{(2), (3)} INSIGHT-004			Merck KGaA, Darmstadt, Germany			
	Melanoma (IO – IO) TACTI-mel						US\$7.8 billion (2026)
	Solid Tumors (In situ Immunization) ⁽²⁾ INSIGHT						
	Metastatic Breast Cancer (Chemo – IO)					Chinese Rights 	
Autoimmune IMP761 (Agonist AB)					Global Rights 		

Notes

9 (1) In combination with KEYTRUDA® (pembrolizumab) in non-small cell lung carcinoma (“NSCLC”) or head and neck carcinoma (“HNSCC”) (2) INSIGHT Investigator Initiated Trial (“IIT”) is controlled by lead investigator and therefore Immutep has no control over this clinical trial

(3) In combination with BAVENCIO® (avelumab) (4) Late stage refers to Phase IIb clinical trials or more clinically advanced clinical trials (5) Estimation of Datamonitor Healthcare, Informa Pharma Intelligence for US, Jap, EU

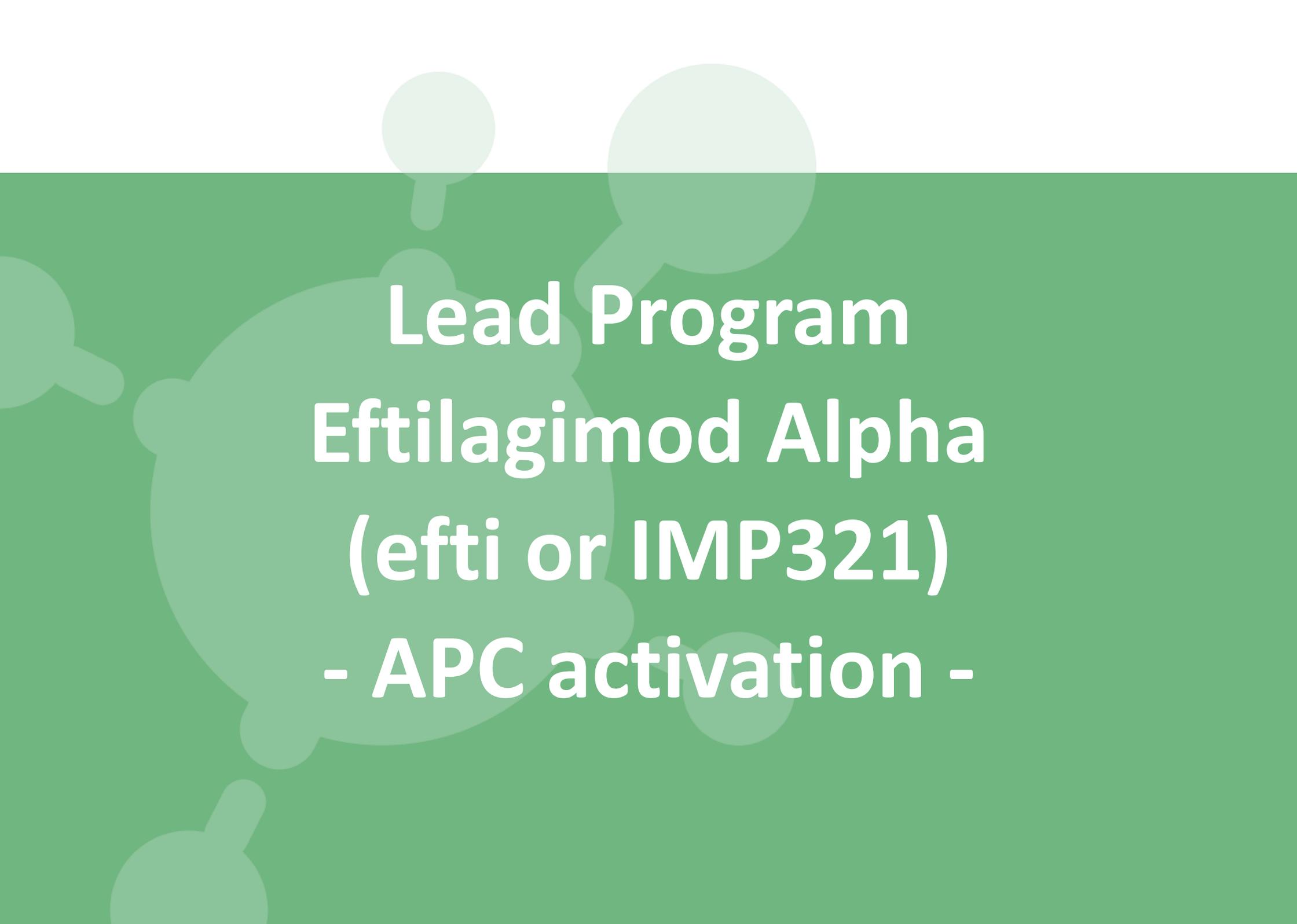
Immutep Out-Licensed Immunotherapy Pipeline*



Notes

* Information in pipeline chart current as at 30 September 2019

- (1) Late stage refers to Phase IIb clinical trials or more clinically advanced clinical trials
- (2) Reflects completed Phase I study in healthy volunteers and psoriasis

The background is a solid green color. Scattered across the background are several white speech bubbles of various sizes and orientations, some overlapping each other. The text is centered within the largest speech bubble.

**Lead Program
Eftilagimod Alpha
(efti or IMP321)
- APC activation -**

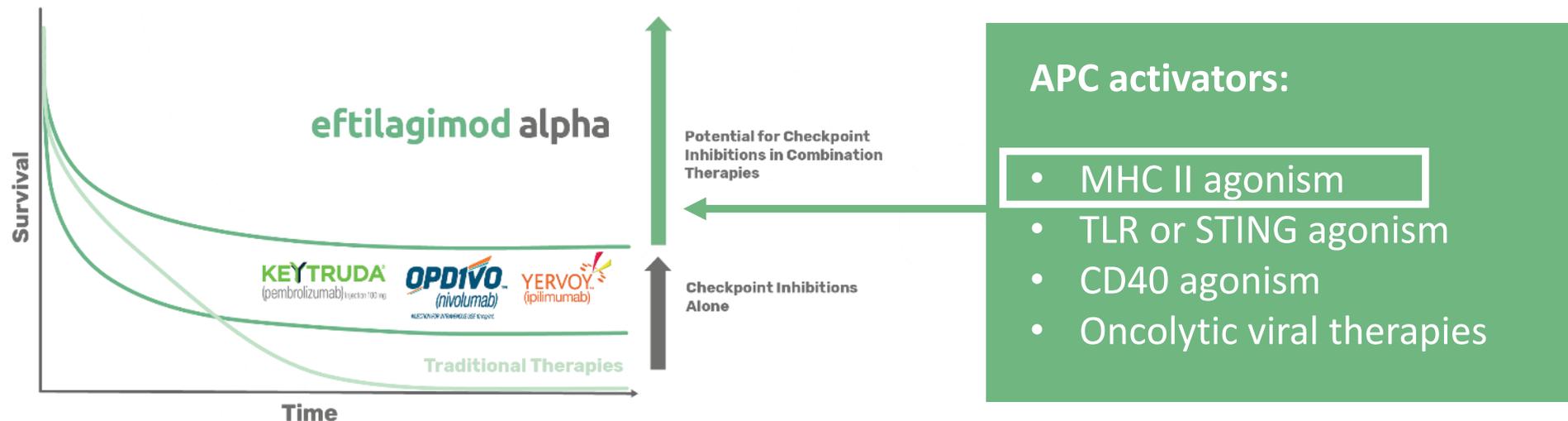
Efti: IO Therapy Response Rates

Approximately 70-80% of patients do not respond to anti-PD-1 monotherapy⁽¹⁾

How can we enable more efficacious T-cell responses?

- immunogenic cell death to liberate/uncover tumor antigens
- cross-presentation of those antigens
- recruitment of T cells into the tumor microenvironment
- reversing the pathways driving a repressive tumor environment

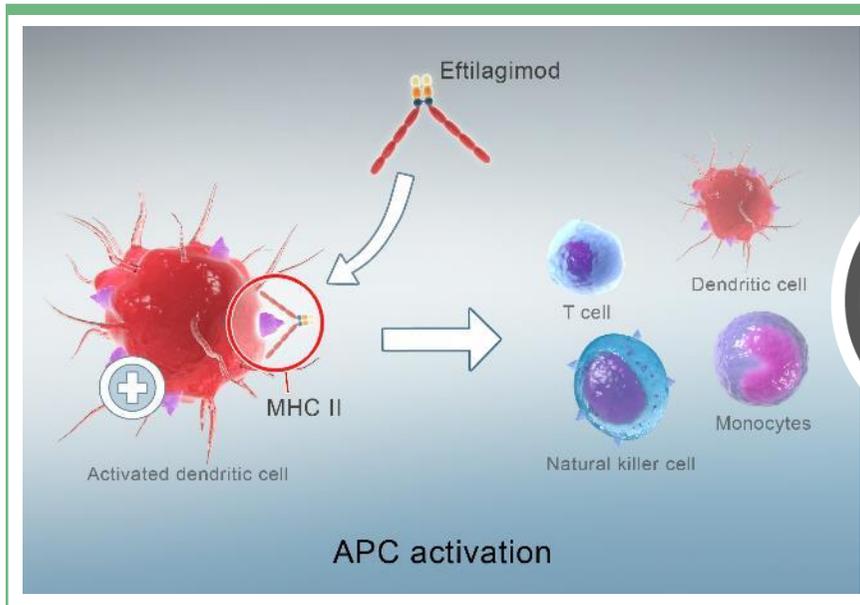
This could be achieved through the right APC activation



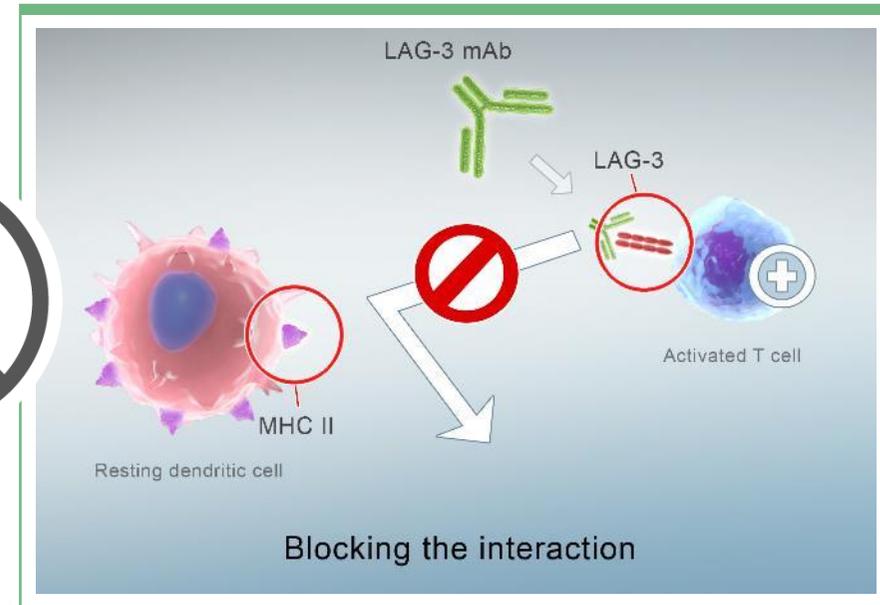
Efti: an Innovative LAG-3 IO Product Candidate

- the only APC targeting LAG-3 product candidate currently in clinical development
- a unique approach (“turning cold tumors into hot tumors” with LAG-3)
- synergistic with other therapeutic agents and modalities e.g. IO agents or chemotherapy

“PUSHING THE ACCELERATOR ON IMMUNE RESPONSES”



“RELEASING THE BRAKE ON THE T CELL”



Efti is an **MHC II agonist**

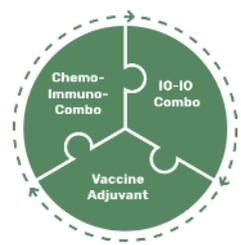
APC activator

- boost and sustain the CD8⁺ T cell responses
- activate multiple immune cell subsets

LAG-3 antagonist, or blocking, antibodies:

Immune checkpoint inhibitor

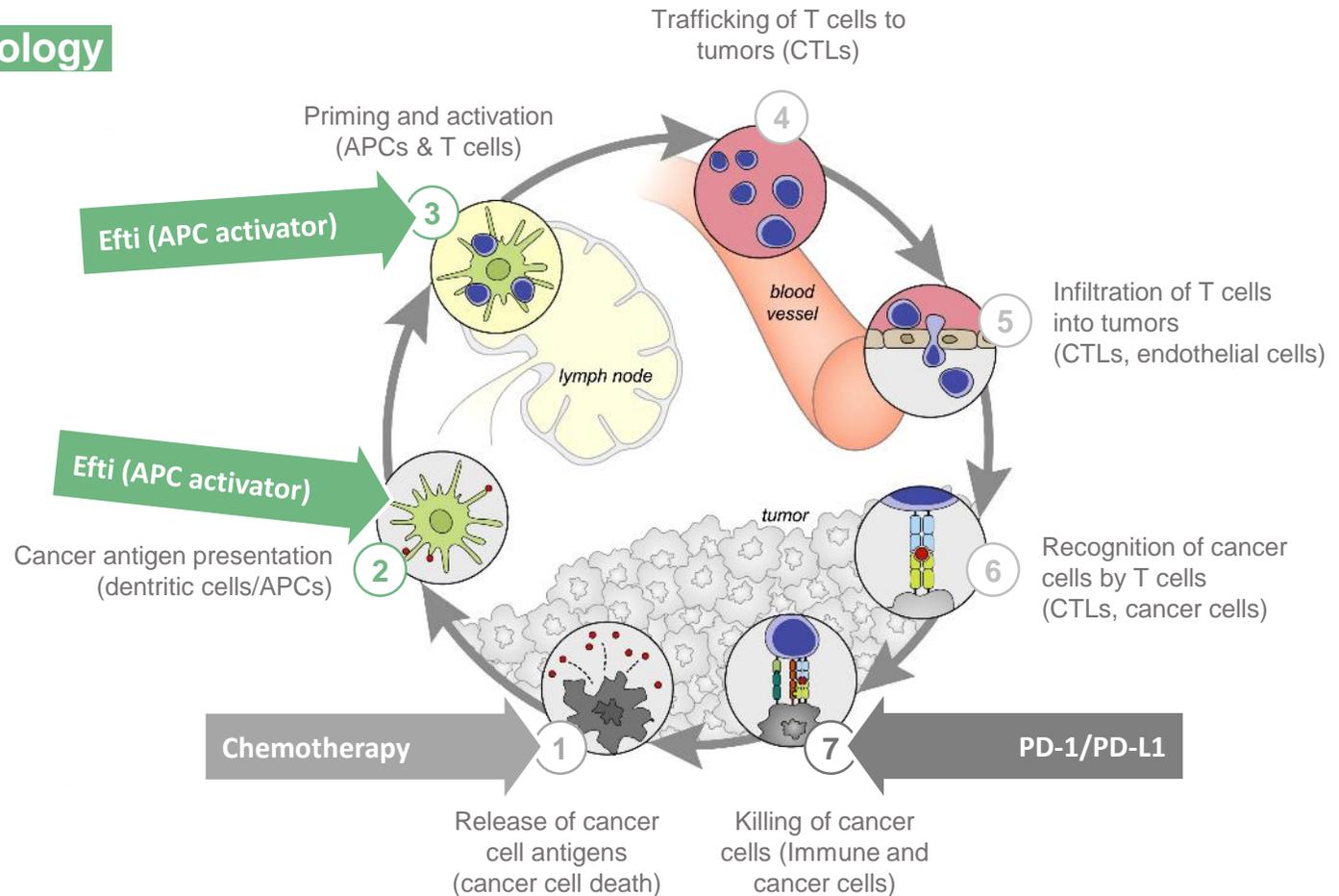
- increase cytotoxicity of the pre-existing CD8 T cell response



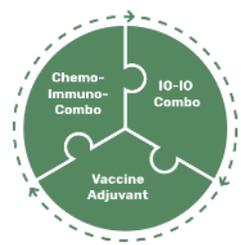
Efti: a pipeline in a product

Efti has disruptive potential for oncology

- ✓ **First-in-Class** MHCII agonist
- ✓ good safety profile
- ✓ encouraging efficacy data
- ✓ low cost of goods
- ✓ potential for use in various combination settings → **efti is a “pipeline in a product”**



Notes:



Efti: a pipeline in a product

Efti is the ideal candidate to combine with
✓ chemo and ✓ PD-1/PD-L1 antagonists

Chemotherapy

Eftilagimod
Alpha

PD-1 / PD-L1

Taxanes

Other Chemo

Huge
Potential

Pembrolizumab

Nivolumab

Avelumab

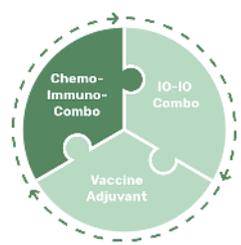
...

Which kind of combinations were successful in the past?

- Different MoA to hit virus/cancer simultaneously

Historical examples:

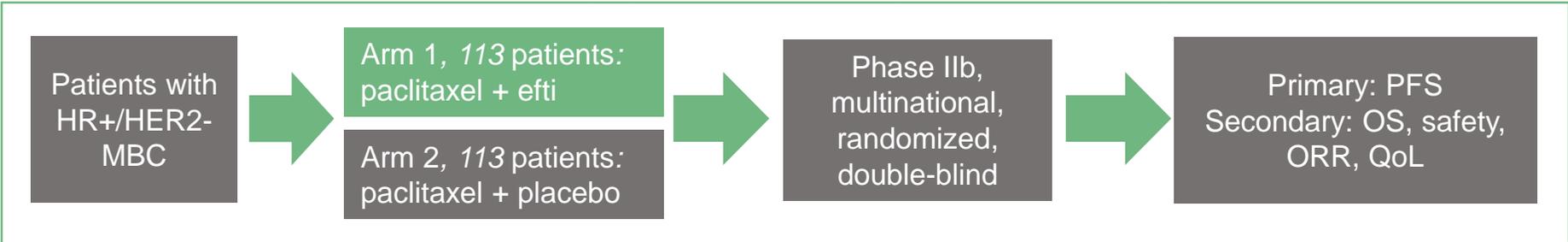
- Pembrolizumab + Chemo in 1st line NSCLC
- CHOP + rituximab in large B-cell lymphoma
- Tritherapy in HIV



Efti Clinical Development AIPAC (Phase IIb)



AIPAC: Active Immunotherapy Paclitaxel in HER2-/ HR+ metastatic breast cancer (MBC)



Results of efti plus paclitaxel in MBC from two Phase I studies :

Antitumor activity acc. to RECIST 1.1	P005 (N=30)	P011 (N=15)
ORR*	47%	47%
DCR**	87%	83%

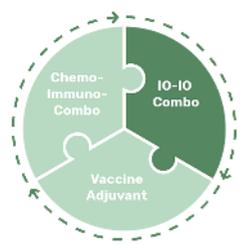
Preliminary data, status Interim CSR April 2018, best response acc. to RECIST 1.1

Observed ORR are substantially better than the 22-33% response rates seen in historical control groups with paclitaxel alone

Status Report

- ✓ Regulatory approval in 7 EU countries
- ✓ 227 patients recruited in Stage 2 → LPI Jun 2019
- **PFS & ORR data expected calendar Q1 2020 (March)**

Key features: 1. double blinded pivotal trial in MBC patients → potential to seek conditional marketing authorization in the EU, pending positive data
 2. broader perspective: validation of Antigen Presenting Cell activators → a new class of active I-O products after the Immune Checkpoint Inhibitors

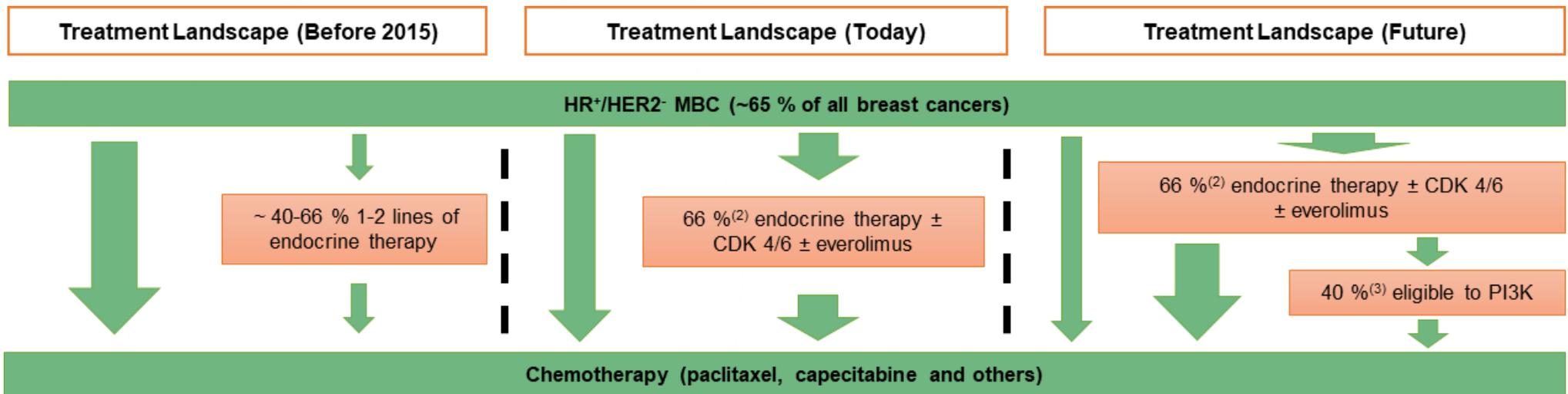


Treatment Landscape for HR+/HER2- MBC



Epidemiology:

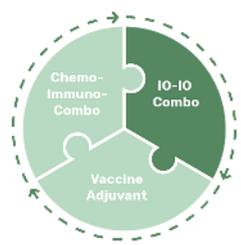
- 812,500 HR+/HER2- diagnoses per annum worldwide⁽¹⁾
- approximately 250,000 develop metastatic disease and are eligible to receive chemotherapy



- Despite all changes → no improvement for patients receiving first-line chemotherapy
- Paclitaxel one of the most widely used chemotherapies
- No active IO in this setting thus far
- No active development of any IO agent or other game changer in late stage clinical trials

Notes

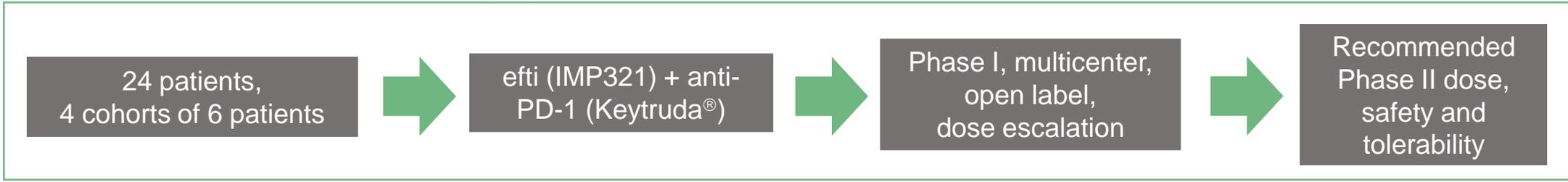
(1) Source: GlobalData 2019
 (2) Caldeira et al Oncology and therapy 2016; 4:189-197
 (3) <https://www.ascopost.com/News/59389> ; Usage to be determined as not yet approved by EMA
 (4) <https://www.onclive.com/insights/mbc-endocrine-partner/role-of-pi3k-inhibitors-in-hr-positive-metastatic-breast-cancer>



Efti Clinical Development TACTI-mel (Phase I)



TACTI-mel: Two Active Immunotherapeutics in Melanoma



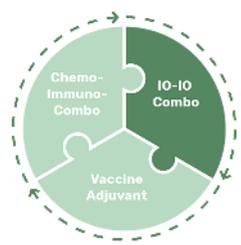
Other objectives	PK and PD of efti, response rate, PFS
Patient Population	Metastatic melanoma

Status Report

- Part A: 1, 6 and 30 mg efti s.c. every 2 weeks **starting with cycle 5** of pembrolizumab
- Part B: efti at 30 mg s.c. every 2 weeks **starting with cycle 1** of pembrolizumab
- Pembrolizumab (Keytruda®) 2 mg/kg every 3 weeks i.v. Parts A and B
- Recruitment completed
- **Encouraging final efficacy** results presented



7 sites in Australia

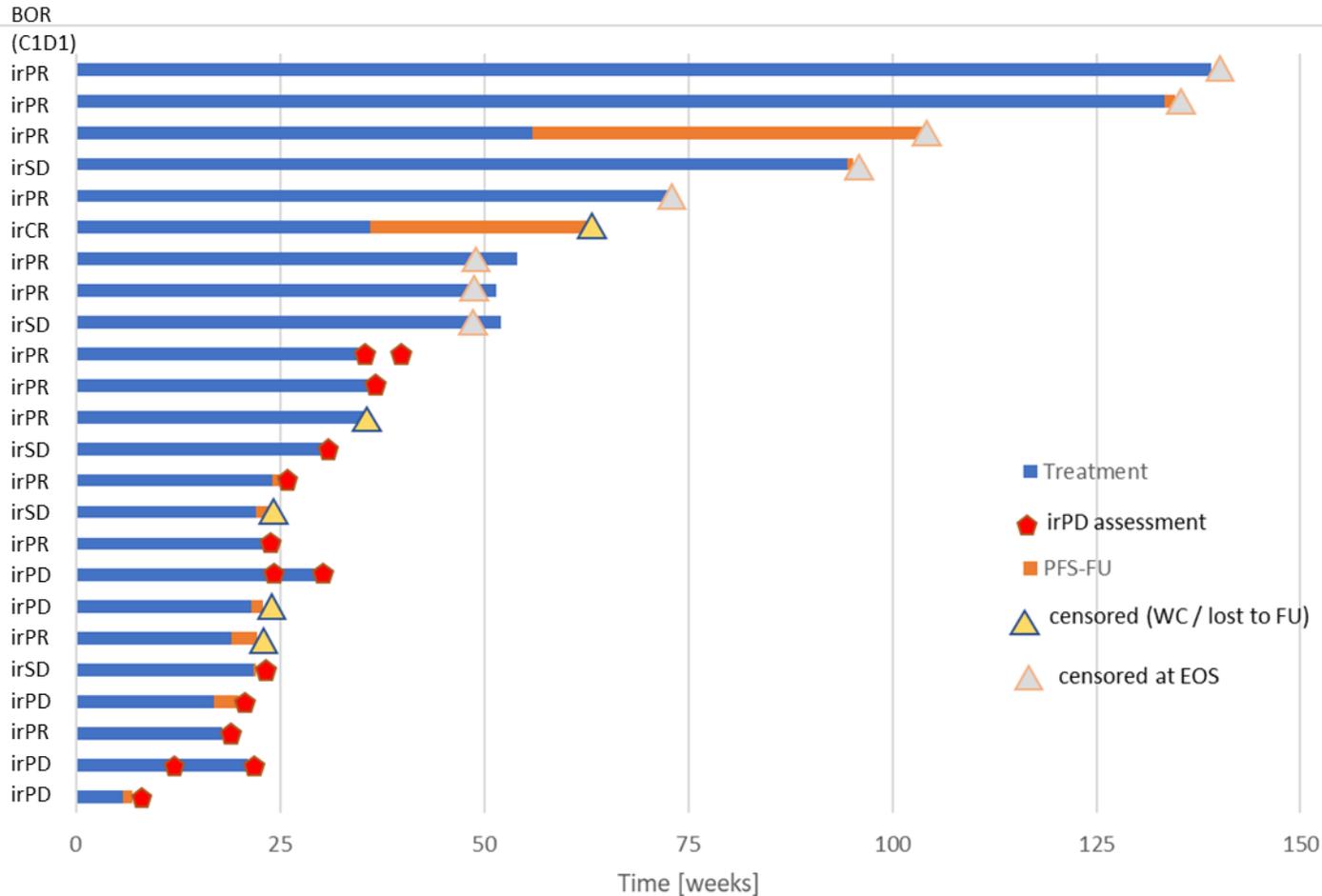


Efti Clinical Development

TACTI-mel: Results (Parts A + B)



Swimmerplot Parts A + B
(starting cycle 1 day 1 pembrolizumab)

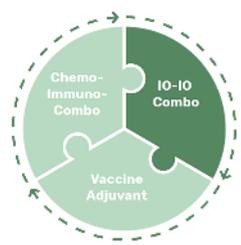


Conclusion

- No treatment termination due to safety issues with the combination
- 9 patients (38%) on treatment for ~12 months → durable responses / disease control
- 2 CR according to RECIST 1.1 and 1 metabolic inactive (PET-CT) PR
- 6 patients with complete disappearance of target tumour lesions according to irRC

Notes:
 BOR: Best Overall Response per patient with start of pembrolizumab as baseline (cycle 1 day 1)
 EOS – end of study
 PFS-FU – progression free survival follow-up

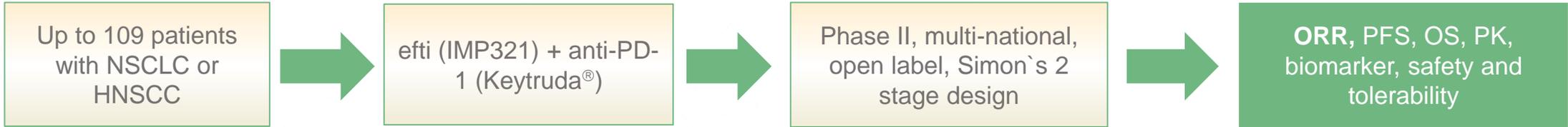
irPD – PD according to ir
 Data-cut-off: Oct 2019



Efti Clinical Development TACTI-002 (Phase II)



TACTI-002: Two Active Immunotherapeutics in different indications



Patient Population	A: 1 st line NSCLC, PD-X naïve B: 2 nd line NSCLC, PD-X refractory C: 2 nd line HNSCC, PD-X naïve
Treatment	30 mg efti (IMP321) s.c. 200 mg pembrolizumab i.v.

Status Report

- ✓ Fully approved in all countries (ES, GB, US and AU)
- ✓ Part A (1st line NSCLC): 41% initial ORR
- ✓ Stage 2 already opened for Parts A and C
- ✓ 49 patients recruited in total



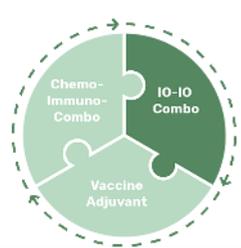
13 sites in Europe / US / Australia

**Updated results will be presented
German Cancer Congress in Feb 2020**

In collaboration with



Key features: PD-X refractory patients (Part B), chemo-free option for NSCLC, first FDA IND for efti, PD-L1 all comers



Efti Clinical Development INSIGHT-004 (Phase I)



INSIGHT-004: dose escalation of efti in combination with avelumab



Patient Population	Solid tumors after failure of standard therapy
Treatment	6 / 30 mg efti (IMP321) s.c. 800 mg avelumab i.v. Both every 2 weeks

Status Report

- ✓ 1 site in Germany
- ✓ Protocol approved by CA/ ED
- ✓ Six patients dosed thus far at 6 mg w/o DLT
- ✓ 1 PR at 6 mg
- ✓ 30 mg cohort opened

In collaboration with



Merck KGaA, I.K.F.
Darmstadt, Germany

Key features: safety with a PD-L1 antagonist (avelumab)

Eftilagimod Alpha Partnerships



- EOC, an Eddingpharm spin-off holding the Chinese rights for efiti, Phase I study in MBC ongoing
- Milestone and royalty bearing partnership



- Spin off from NEC, Japan. Est. December 2016; aims to develop cancer drugs discovered by artificial intelligence → mainly cancer vaccines
- Clinical Trial Collaboration (up to US\$5 million); clinical research ongoing



- Strategic supply partnership for the manufacture of efiti
- Through WuXi, Immunetep was the first company to use a Chinese manufactured biologic in a European clinical trial





Out-Licensed Immunotherapy Pipeline

LAG525 (IMP701) for Cancer

- Novartis holds an exclusive WW licence to develop and commercialise LAG525 (which is derived from Immunetep's antagonist antibody known as IMP701)
- 1st and 2nd milestone payments received by Immunetep in August 2015 (undisclosed) and August 2017 (US\$1 million)
- In 2018 Novartis cancelled 90 other R&D programs but continued to invest heavily in progressing the development of LAG525
- Novartis currently has five clinical trials ongoing for LAG525 in multiple cancer indications for over 1,100 patients⁽¹⁾



- **IMP701 is an anti-LAG-3 mAb that blocks LAG-3-mediated immune down-regulation**
- **LAG-3 is a prime target for immune checkpoint blockade as it is readily expressed at a high level in many human tumors**

GSK'781 (IMP731) for Autoimmune Diseases

- GSK holds an exclusive WW licence to develop and commercialise GSK'781 (which is derived from Immunep's depleting antibody known as IMP731)
- Up to £64 million in upfront payments and milestones, plus royalties
- GSK portfolio review in 2017 -> GSK'781 continued despite cancellation of 13 clinical and 20 preclinical programs
- March 2018: Phase I trial in psoriasis completed in 67 subjects/patients⁽²⁾
- Phase I clinical study ongoing evaluating GSK'781 in 36 healthy Japanese and Caucasian subjects, PK/PD study
- September 2019: 1st patient dosed in Phase II trial in ulcerative colitis in 280 patients triggered a £4 million (~US\$5.0 million) milestone payment to Immunep⁽¹⁾

GSK's investigational product, GSK2831781, which is derived from IMP731 antibody, aims to kill the few activated LAG-3⁺ T cells that are auto-reactive in autoimmune disease leading to long term disease control without generalized immune suppression



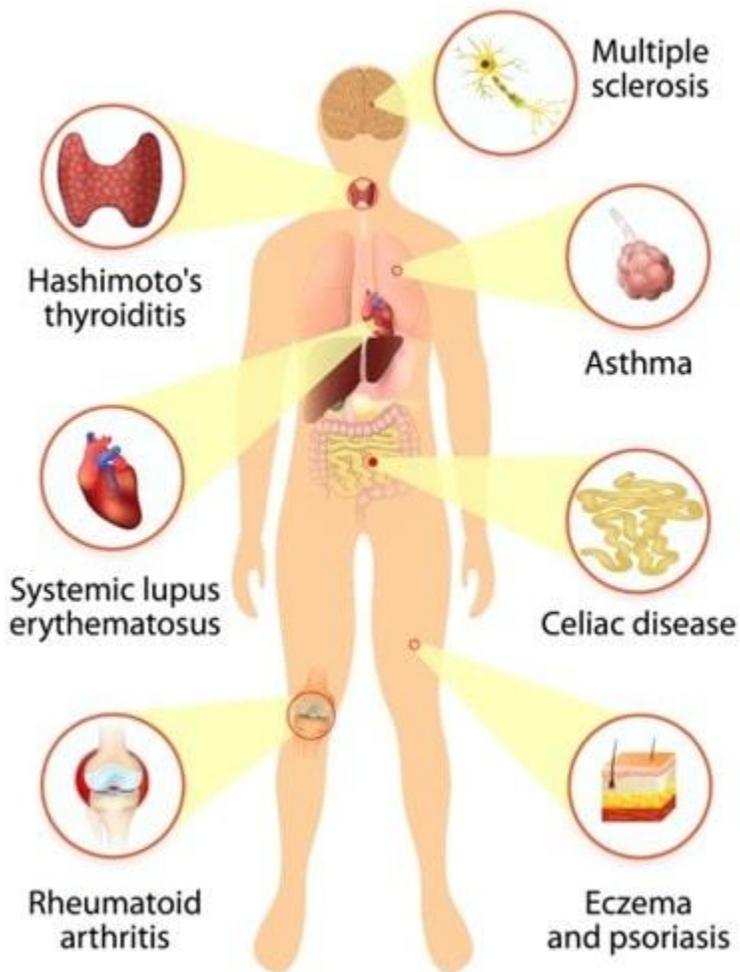


IMP761

(Autoimmune Diseases)

Broad potential in targeting auto-reactive memory T cells with IMP761

AUTOIMMUNE DISEASES



THE PRESENT: FIGHTING THE SYMPTOMS

Treating general inflammation:

corticoids, methotrexate,
anti-TNF- α , -IL-6, -IL-17, -IL-23 mAbs

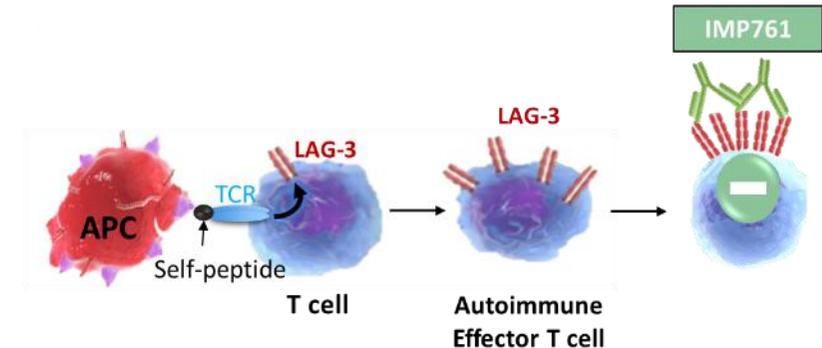
THE FUTURE: FIGHTING THE CAUSE

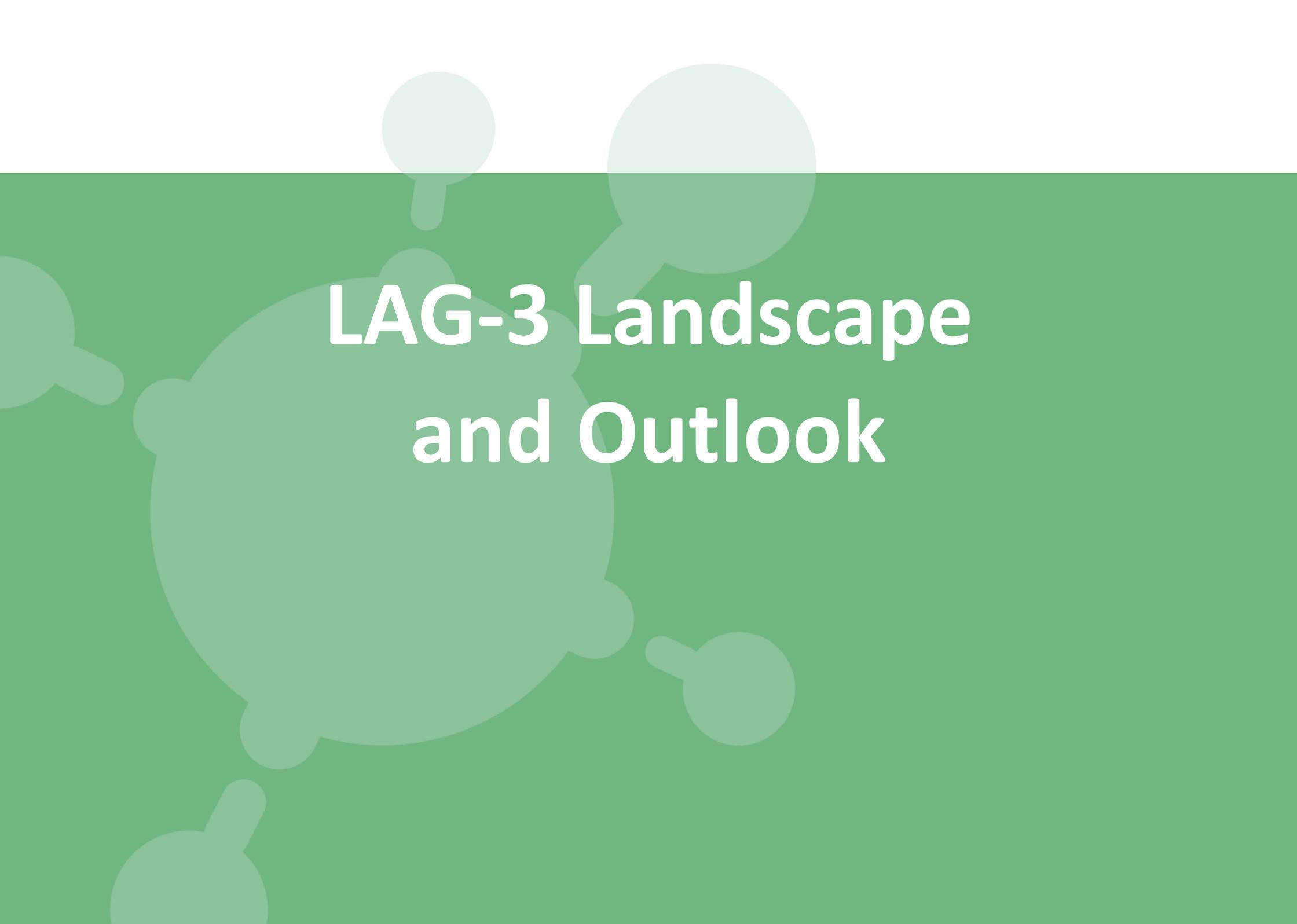
Treating the disease process:

silencing the few autoimmune memory T cells
accumulating at the disease site with IMP761

IMP761 Overview

- **The Concept:** treating the cause of autoimmune diseases, not just the symptoms
- **The Target:** the self-peptide specific memory T cells harboring LAG-3
- **The Tool:** an agonistic LAG-3-specific mAb down-modulating self-peptide-induced TCR signaling
- **The Evidence (1)*:** *in vitro* down-modulation of peptide-induced human T cell proliferation and activation
- **The Evidence (2)*:** *in vivo* down-modulation of peptide-induced T cell infiltration / inflammation at the tissue site in a NHP model
- **IP:** 1 family - composition of matter & methods of treatment, expiry 2036
- **The Status:** cell line development ongoing and GMP manufacturing preparations underway in order to progress to clinical development





LAG-3 Landscape and Outlook

LAG-3 Therapeutic Landscape Overview

	Company	Program	Preclinical	Phase I	Phase II	Phase III	Total Trials	Patients on Trials	
Oncology	Agonist	immuteP ⁺ LAG-3 IMMUNOTHERAPY		2	2		4	424	
	Antagonist	BMS	Relatlimab		6	19	2	27	9,422
		NOVARTIS	LAG525 (IMP701)		1	4		5	1,100
		B.I.	BI754111		4	1		5	849
		Merck & Co. Inc.	MK4280		2	1		3	910
		Macrogenics	MGD013		1	1		2	1,105
		Tesaro ⁽¹⁾	TSR-033		1			1	260
		Regeneron ⁽²⁾	REGN3767		1			1	589
		Xencor	XmAb-22841		1			1	242
		Symphogen A/S	SYM022		2			2	132
		Incyte	INCAGN02385		1			1	40
		F-Star	FS-118		1			1	51
Autoimmune	Agonist	immuteP ⁺ LAG-3 IMMUNOTHERAPY					--	--	
	Depleting AB	gsk ⁽³⁾		2	1		3	383	

Notes:

Sources: Company websites, clinical trials.gov, and sec.gov, as of September 27, 2019

- (1) Tesaro was acquired by and is now part of GSK
- (2) As of January 7, 2019 Regeneron is in full control of program and continuing development (Sanofi discontinued)
- (3) Includes the Phase I study in psoriasis (completed March 2018)

Note: The green bars above represent programs conducted by ImmuteP &/or its partners..

Reported 2019:

- ✓ TACTI-002 to commence, Phase II trial in collaboration with MSD: H1 2019
- ✓ IMP761 program update: 2019
- ✓ INSIGHT-004 to commence, IIT Phase I trial in collaboration with Pfizer and Merck KGaA: Q2 2019
- ✓ AIPAC fully recruited: Q2 2019
- ✓ TACTI-002 first data in September 2019
- ✓ TACTI-mel final efficacy data: Q4 2019
- ✓ TACTI-002 data update: Q4 2019
- ✓ INSIGHT-004 update: Q4 2019

Upcoming Data 2020 (est):

- MBC - mature, robust PFS & ORR data from AIPAC: Q1 2020 (March)
- NSCLC 1st line - more data from Stages 1 and 2 from TACTI-002 throughout 2020 (e.g. German Cancer Congress February 2020)
- HNSCC 2nd line - initial data from Stages 1 and 2 from TACTI-002 throughout 2020 (e.g. AACR April 2020)
- NSCLC 2nd line - initial data from Stage 1 from TACTI-002 throughout 2020
- Combination with avelumab - initial data from Phase I trial throughout 2020

*The actual timing of future data readouts may differ from expected timing shown above. These dates are provided on a calendar year basis.

Global Leader in
Development of LAG-3
Therapeutics

- More clinical-stage LAG-3 programs than any other company
- Dr. Frédéric Triebel, MD Ph.D., Immutep's Chief Scientific Officer and Chief Medical Officer, discovered the LAG-3 gene

First-in-Class /
Potential Pipelines in
Product Candidates

- LAG-3 fusion protein that is a MHC II agonist and APC activator for oncology
- LAG-3 agonist mAb for autoimmune diseases

Near-Term Phase II
Clinical Data Expected
for Eftilagimod Alpha

- Significant data updates from Phase II clinical study in combination with Keytruda⁽¹⁾ expected in **2020**
- PFS data from Phase IIb double blind placebo-controlled study of 227 patients with HER2-negative / HR positive MBC expected in **Q1 2020 (March)**

Leading Industry
Partners

- Relationships with multiple industry partners including Novartis, GSK, Merck (MSD), Pfizer & Merck KGaA



Thank you!