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LAG-3 IMMUNOTHERAPY

The global leader in developing LAG-3 therapeutics

Investor Presentation
May 2019

(ASX: IMM, NASDAQ: IMMP)

Notice: Forward Looking Statements

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Company Snapshot

- Globally active biotechnology company with operations in Australia, Europe and U.S.
- Four LAG-3 related product candidates in development in immuno-oncology and autoimmune disease
- Committed partnerships with five of the world's largest pharmaceutical companies - Merck (MSD), Pfizer/ Merck KGaA, Novartis and GSK

Capital Structure

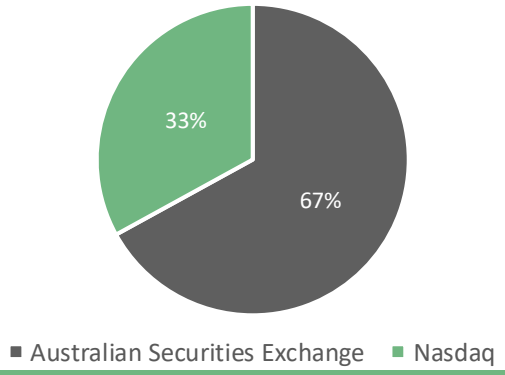
Ticker symbols	IMMP (NASDAQ) IMM (Australian Securities Exchange)
Securities on issue(1) (as at 30 April 2019)	11.1 million American Depository Shares (ADSs) 3.38 billion ordinary shares
Cash & Term Deposits (as at 31 March 2019)	US$15 million (A$21 million)
Market Cap(2) (as at 6 May 2019)	US$67 million (A$93 million)
Avg. Vol. (3 months) (as at 30 April 2019)	271 k ADSs(1) on NASDAQ 2.4 million ordinary shares on ASX

Notes:

(1) Each ADS represents 100 ordinary shares

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

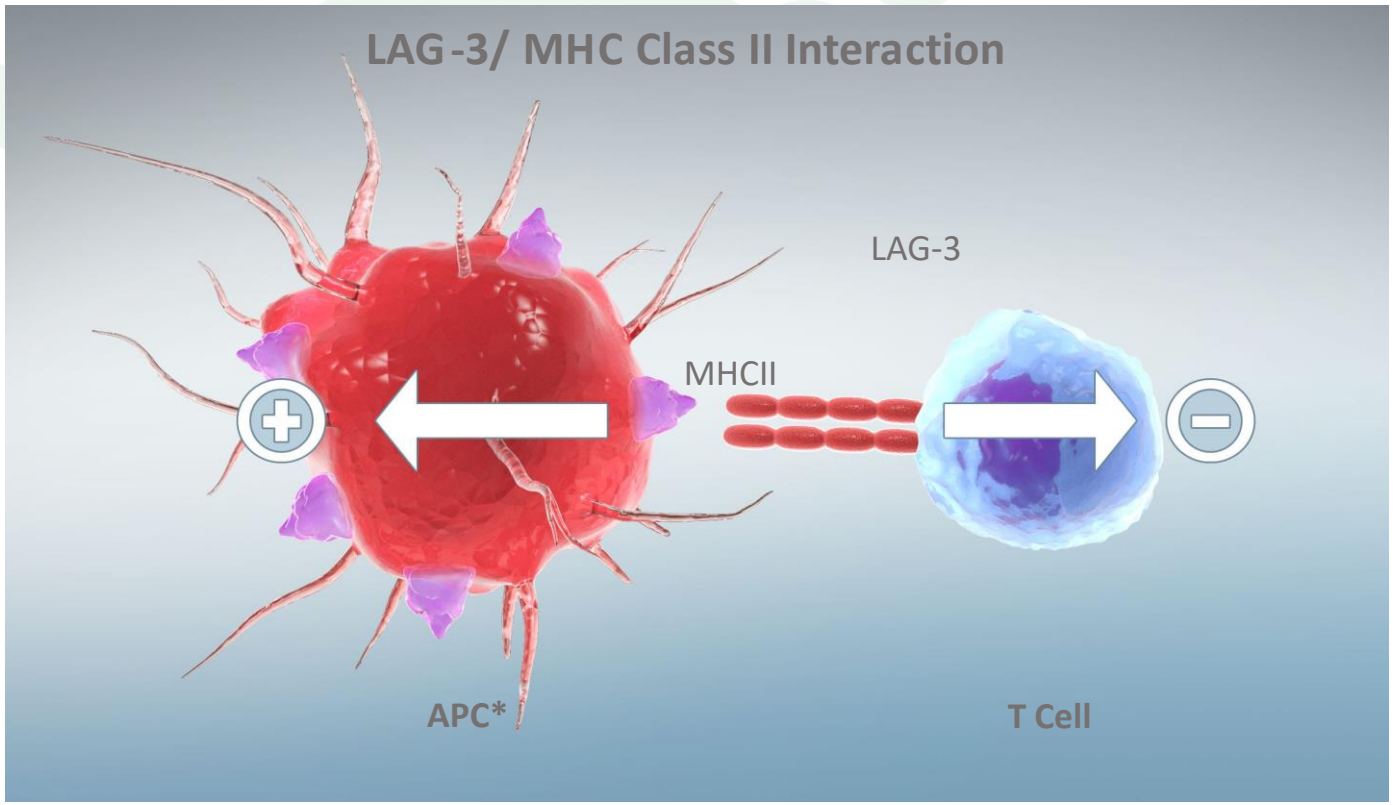
Shareholder Base



LAG-3 Overview & Product Candidates

LAG-3 as a Therapeutic Target

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



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

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

Notes:

* APC: antigen presenting cell

Targeting LAG-3/MHC II May Lead to Multiple Therapeutics in Numerous Indications

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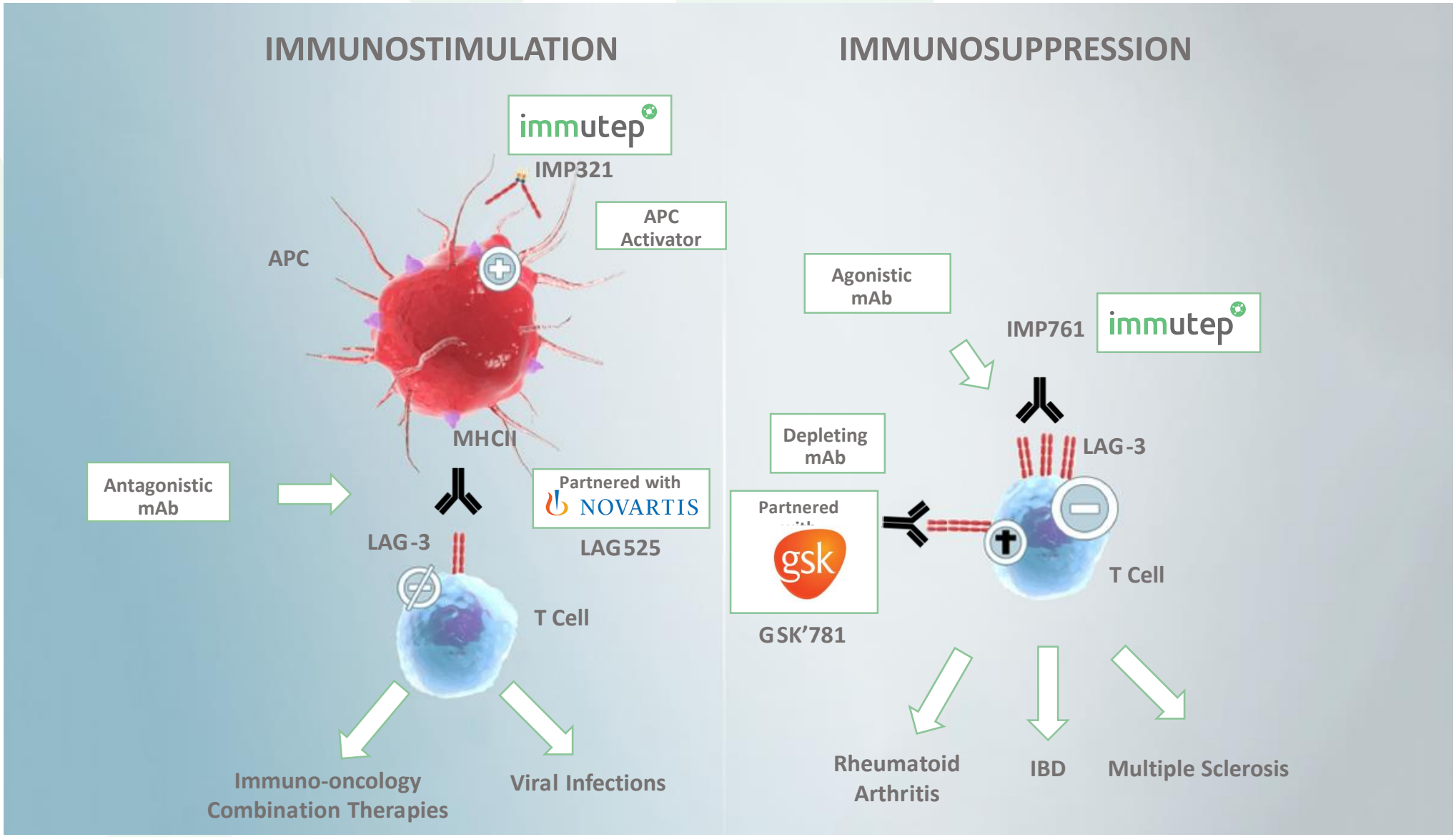

Immutep Controlled Immunotherapy Pipeline*

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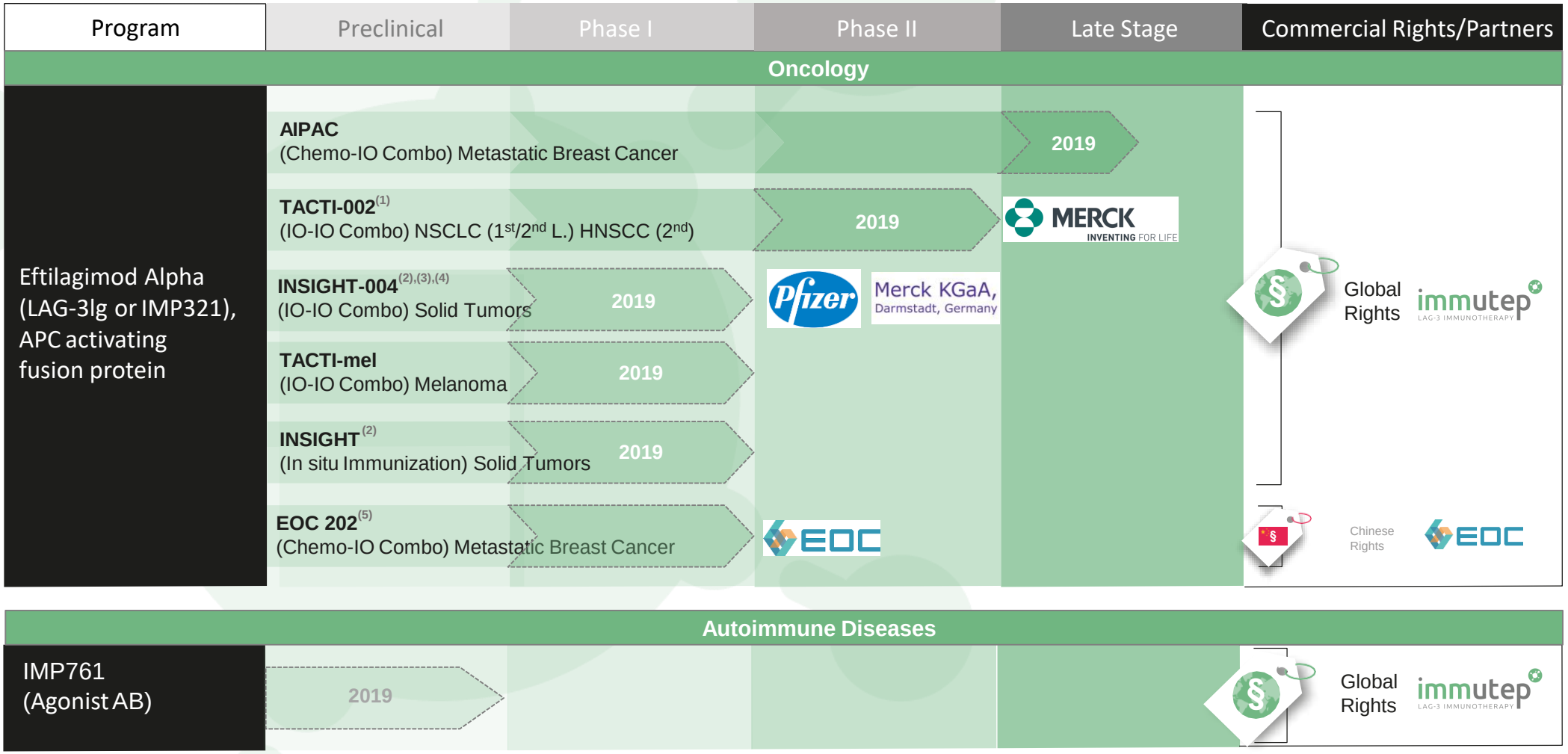


Notes

* Actual timing of data readouts may differ from expected timing shown above. Information in pipeline chart current as at 12 February 2019.

(1) In combination with KEYTRUDA® (pembrolizumab) in non-small cell lung carcinoma ("NSCLC") or head and neck carcinoma ("HNSCC"); clinical trial is currently planned and not active

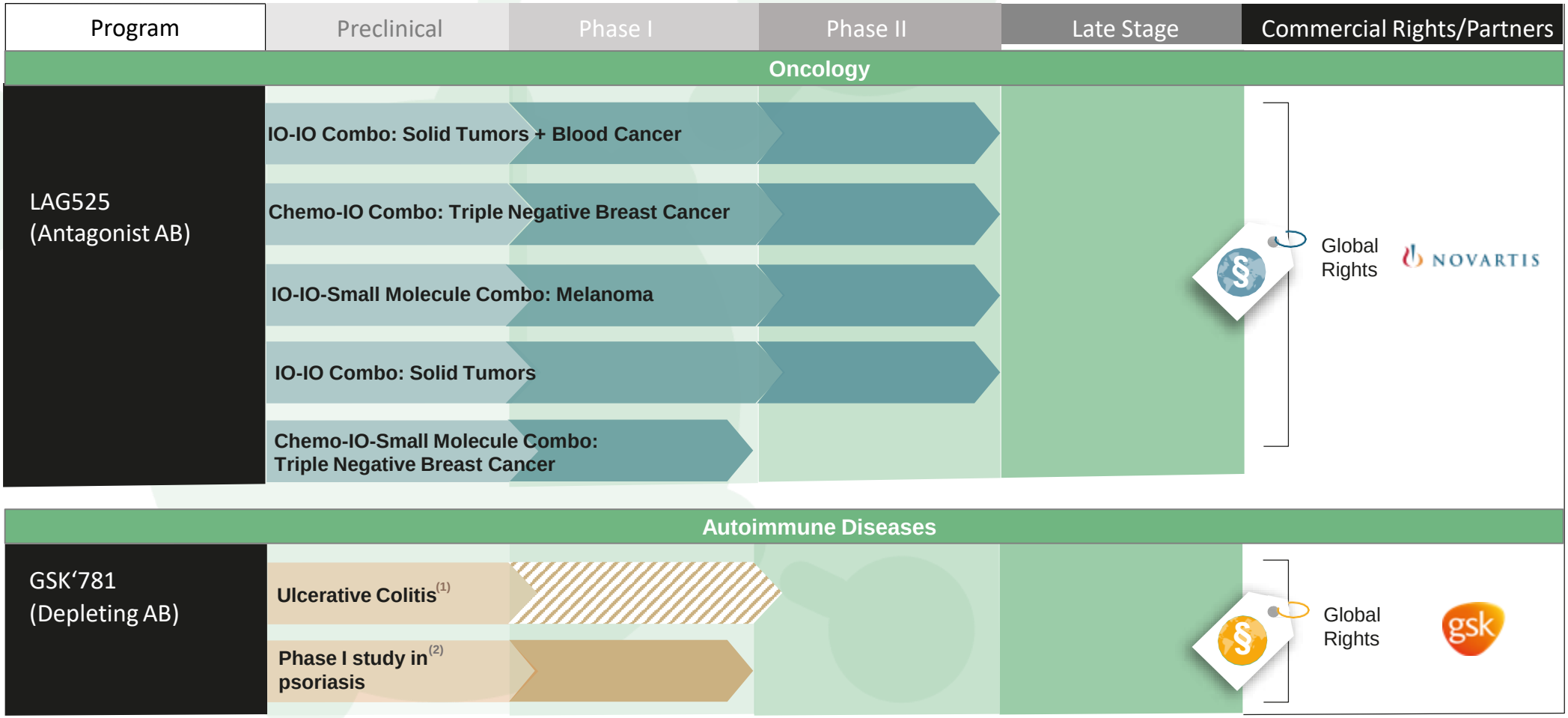
(2) INSIGHT Investigator Initiated Trial ("IIT") is controlled by lead investigator and therefore Immutep has no control over this clinical trial

(3) In combination with BAVENCIO® (avelumab)

(4) Clinical trial is currently planned and not active

(5) EOC Phama is the sponsor of the EOC 202 clinical trial which is being conducted in the People's Republic of China

Out-Licensed Immunotherapy Pipeline



Notes

(1) Clinical trials currently planned and not yet active (as depicted by diagonal striped lines). Proof of concept data in Ulcerative Colitis for GSK'781 expected in 2H 2020.

(2) Reflects completed Phase I study in healthy volunteers and psoriasis.

Lead Program
Eftilagimod Alpha (IMP321)

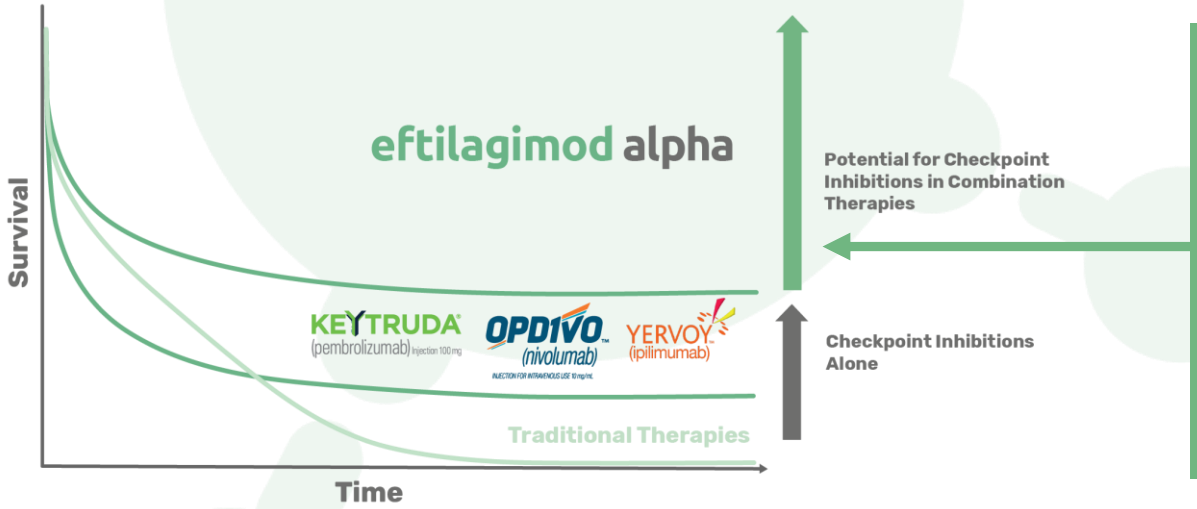
IO Therapy Oncology Response Rates

Approximately 70-80% of patients do no respond to anti-PD1 monotherapy

How can we enable more efficacious T-cell responses?

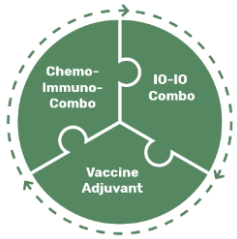
- Immunogenic cell death to liberate/uncover tumor antigens
- Cross-presentation of those antigens
- Recruitment of T cells into the tumor microenvironment
- Reversing the pathways driving a repressive tumor environment

This could be achieved through the right APC activation



APC activators:

- MHC II agonism
- TLR or STING agonism
- CD40 agonism
- Oncolytic viral therapies



Opportunity for Eftilagimod Alpha

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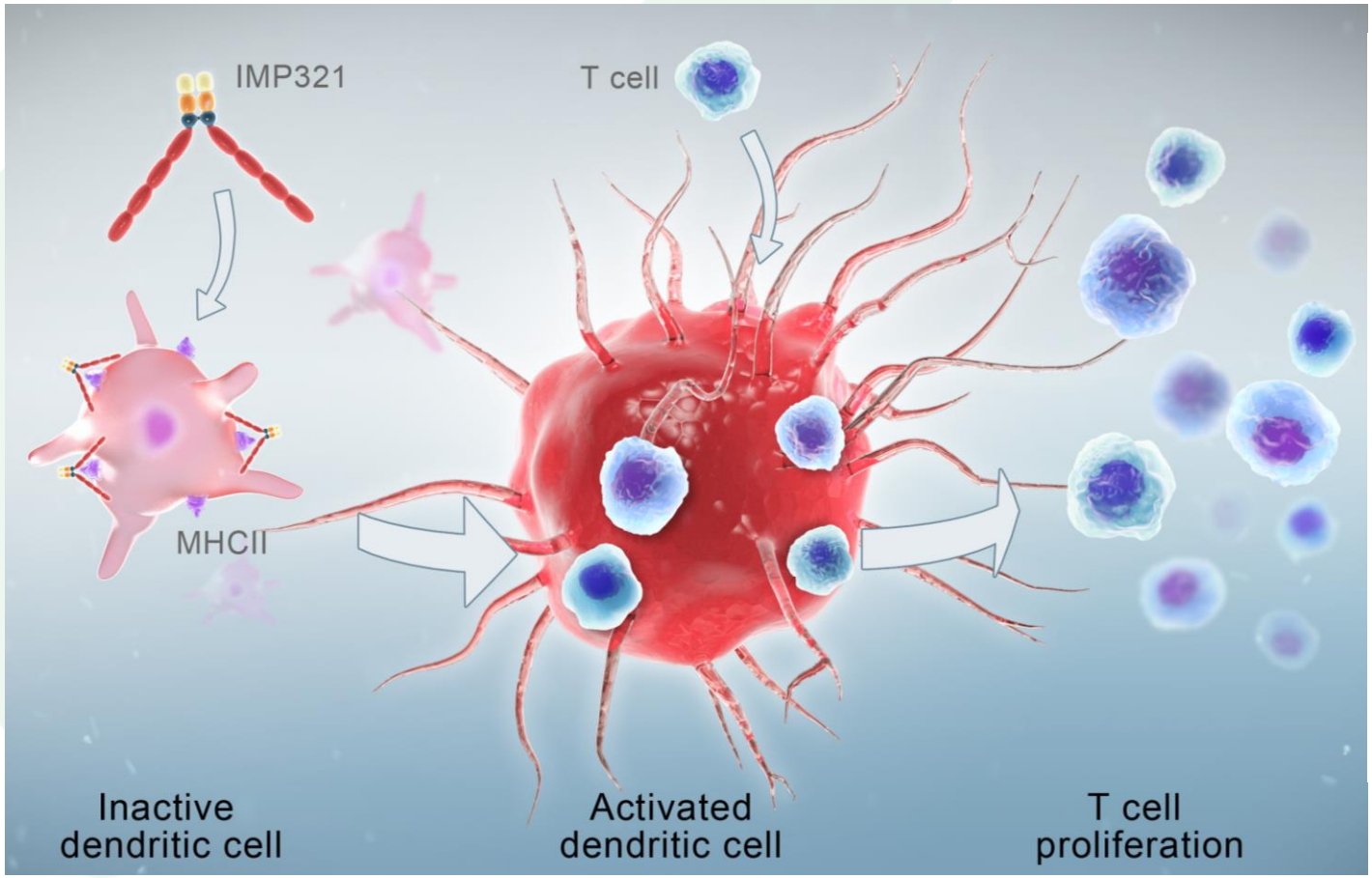
Eftilagimod has the potential to be an ideal combinatory therapeutic in the oncology treatment regiment that could improve the prognosis for patients

Eftilagimod Key Characteristics (based on current data):

- First-in-class MHCII agonist
- Good safety profile and encouraging efficacy data thus far
- Potential for use in various combination settings (e.g. IO, chemo, vaccines or in situ immunization)
- Estimated favorable (low) cost of goods based on current flat dosing regimen and manufacturing process

Efti Mechanism of Action

Efti's agonistic mechanism of action leads to T cell expansion and proliferation => pushing the gas on the immune response



→ Efti binds to MHC class II on monocytes

→ DC/ monocyte activation induced

→ Leads to T cell expansion and proliferation

- Highly efficacious in multiple animal models of cancer and infectious disease
- Shown to be safe, non-immunogenic and efficacious in humans

(Clin Cancer Res. 2008 Jun 1;14(11):3545-54)

Efti - Areas of Development Multiple Strategies

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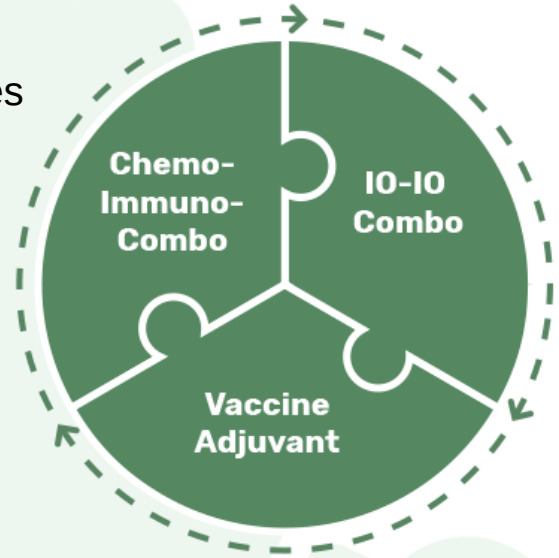
Efti has multiple shots on goal in different indications and in different combinations

Chemo-immunotherapy

- Exploit the antigen debris from chemotherapy with an APC activator → combination with agents such as taxanes (e.g. paclitaxel)

• *European Phase IIb AIPAC (Immutep)*
• *Chinese Phase I Chemo Combo in MBC pts (EOC)*



IO-IO combination

- Increase response rates and durability, overcoming resistance in combination with IO agents with complementary mechanisms (e.g. pembrolizumab, avelumab)

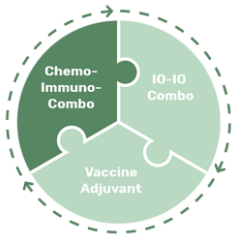
• *Phase I TACTI-mel (Immutep)*
• *Phase II TACTI-002 (Immutep[1])*
• *Phase I INSIGHT – Stratum D (Immutep[2])*

Cancer vaccine or in situ vaccination

- Stimulate the immune system locally → intratumoral or in vaccination studies

• *Phase I Solid Tumors (Cytlimic)*
• *Phase I INSIGHT - Stratum A+B (IKF[3])*

Notes
(1) In collaboration with Merck & Co., Inc., Kenilworth, NJ, USA (known as MSD outside the United States and Canada) and in combination with KEYTRUDA® (pembrolizumab)
(2) In collaboration with Merck KGaA, Darmstadt, Germany and Pfizer Inc. and in combination with BAVENCIO® (avelumab)
(3) INSIGHT Investigator Initiated Trial ("IIT") is controlled by lead investigator and therefore Immutep has no control over this clinical trial



Efti - Clinical Development AIPAC

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AIPAC: Active Immunotherapy PAClitaxel in MBC

Safety-run in, 15 (6+9) patients, 2 cohorts → Stage 2 → Arm 1, *113* patients: paclitaxel + IMP321; Arm 2, *113* patients: paclitaxel + placebo → Phase IIb, multinational, randomized, double-blind → Run-in: RP2D; Stage 2: Efficacy (PFS)

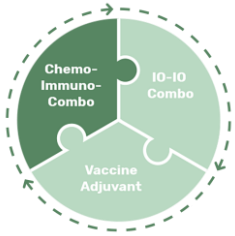
Other Objectives	Anti-tumor activity, safety and tolerability, PK, immunogenicity, quality of life
Patient Population	Advanced MBC indicated to receive 1st line weekly paclitaxel
Treatment	Run-in: Paclitaxel + IMP321 (6 or 30 mg) Arm 1: Paclitaxel + IMP321 (30 mg) Arm 2: Paclitaxel + Placebo
Location	>30 sites in 7 (GB, DE, PL, HU, FR, BE, NL) EU countries

Status Report (Apr 2019)

- ✓ To-date, efficacy and safety data (ASCO 2018) in-line with historical control group / prior clinical trials (Brignone et al J Trans Med 2010, 8:71)
- ✓ Regulatory approval in 7 EU countries
- ✓ >200 patients recruited in Stage 2 → LPI expected May/Jun 2019
- Primary read out expected within 12 months dependent on the number of events, but not before Q.4 2019

Key features: double blinded, potentially pivotal trial in metastatic breast cancer patients

R2PD – recommended phase 2 dose, ORR – overall response rate, PFS – progression free survival, OS – overall survival, PK –pharmacokinetics



Eftilagimod Alpha Preliminary Efficacy Metastatic Breast Cancer

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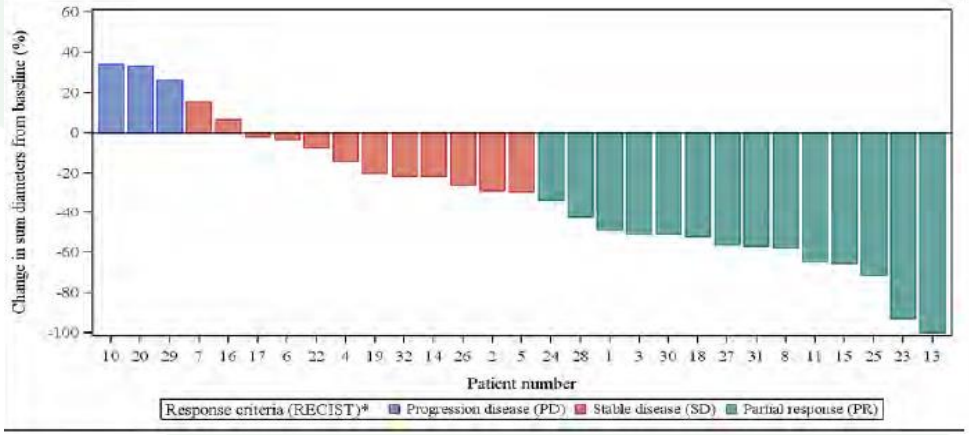
Observed response rates are substantially better than the 22-33% response rates seen in historical control groups with paclitaxel monotherapy

Phase I (n=30)



- **ORR* of 47% and DCR** of 83%**
- Responders had further tumor shrinkage between months 3 and 6

AIPAC – Safety Run Phase (n=15)

Response Parameter	Paclitaxel + IMP321 (n = 15)
Complete Response (CR)	0/15 (0%)
Partial Response (PR)	7/15 (47%)
Stable Disease (SD)	6/15 (40%)
Progressive Disease (PD)	2/15 (13%)
Overall Response Rate (ORR)	7/15 (47%)
Disease Control Rate (DCR)	13/15 (87%)

- **ORR of 47% and DCR of 87%**
- Two of the responses occurred relatively late (after ~6 months)

**Overall Response Rate **Disease Control Rate*

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

Efti in Melanoma
TACTI-mel – Trial Design

TACTI-mel: Two ACTive Immunotherapeutics in Melanoma

24 patients, 4 cohorts of 6 patients → Efti (IMP321) + anti-PD-1 (Keytruda®) → Phase I, multicenter, open label, dose escalation → Recommended Phase II dose, safety and tolerability

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

7 sites in Australia

- 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

→ Status: recruitment completed; interim results on following slides

- Pembrolizumab (Keytruda®) 2 mg/kg every 3 weeks i.v. part A and B

Efti in Melanoma
TACTI-mel – Results Part A

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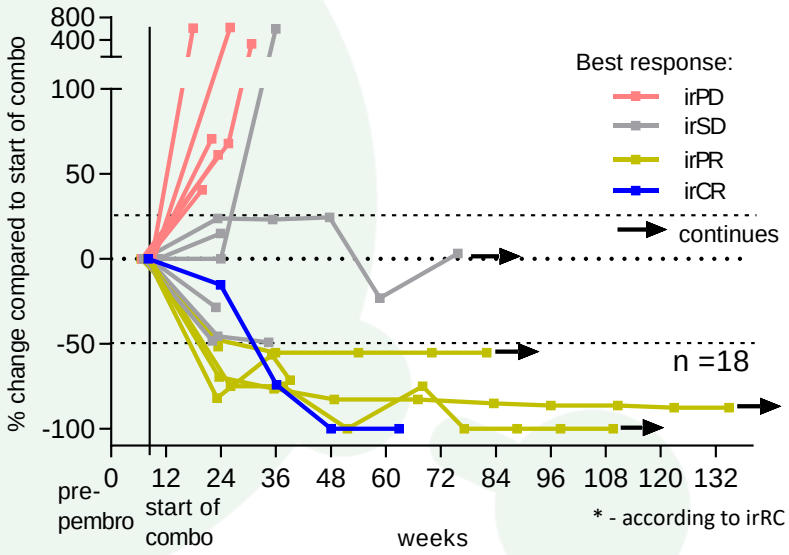
Majority not responding to pembrolizumab monotherapy
→ Tumor shrinkage in 56 % incl. 2 pts with disappearance of all target lesions

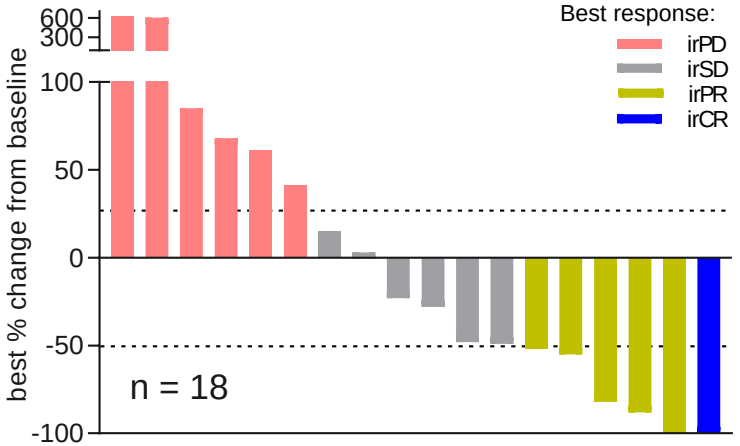
Best Overall Response acc. to irRC	N = 18 (%)
irCR	1 (6 %)
irPR#	5 (28 %)#
irSD	6 (33 %)
irPD	6 (33 %)
Best overall response rate (ORR)	**6 (33 %)**
Patients with tumor shrinkage	**10 (56 %)**
Disease control rate	**12 (66 %)**

- incl. 1 pt with complete disappearance of all target lesions; CR acc. to RECIST 1.1

Spider plot* (part A)
(starting with cycle 5 of pembrolizumab)



Waterfall plot* (part A)
(starting with cycle 5 of pembrolizumab)



Exploratory analysis
(C1D1 pembrolizumab):
ORR of 61 %

preliminary data, cut-off February 2019

Efti in Melanoma
TACTI-mel – Results Part A – Single Case

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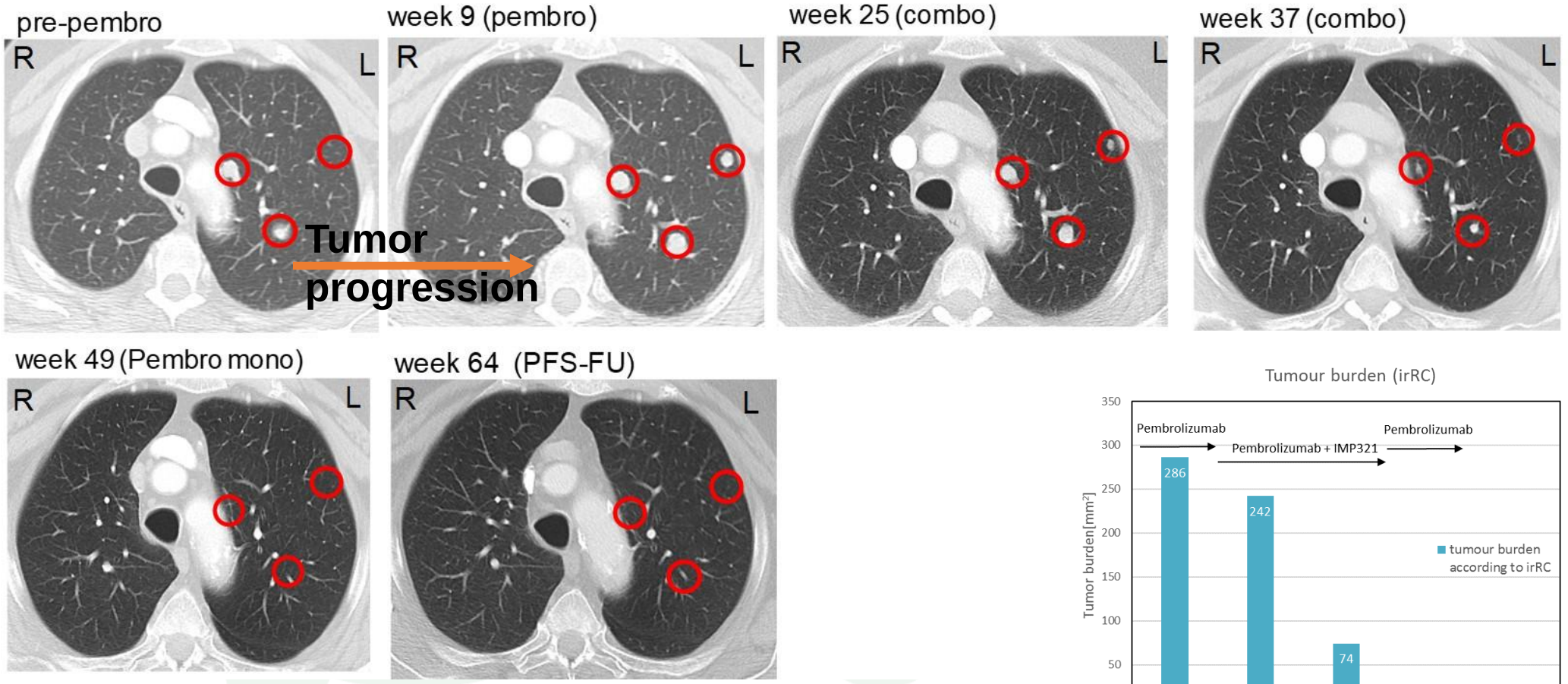
Efficacy: Metastatic Melanoma



- Patient progressing on pembrolizumab monotherapy
- At 1 yr all lesions disappeared → CR (confirmed)
- Patient without treatment and disease free → now lost to FU

Preliminary data, status as of October 15, 2018

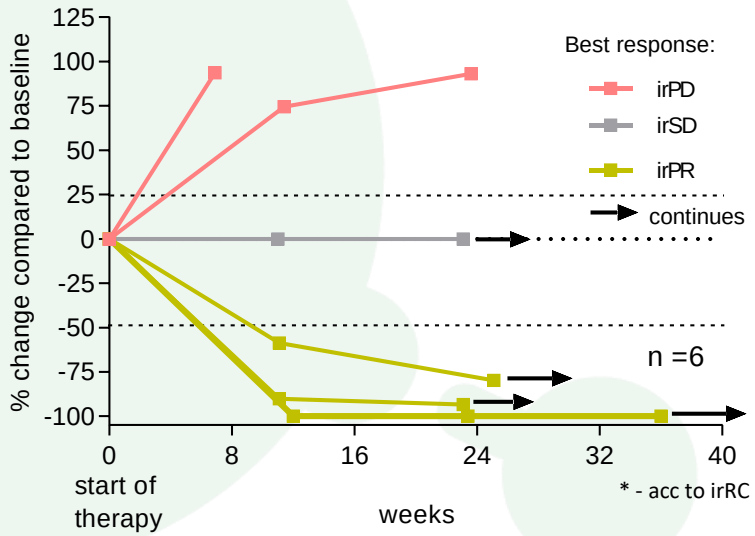
Efti in Melanoma
TACTI-mel – Results Part B

Confirmed deep partial responses in 3 (50%) of the pts
Treatment of 4 pts ongoing, all over 6 months

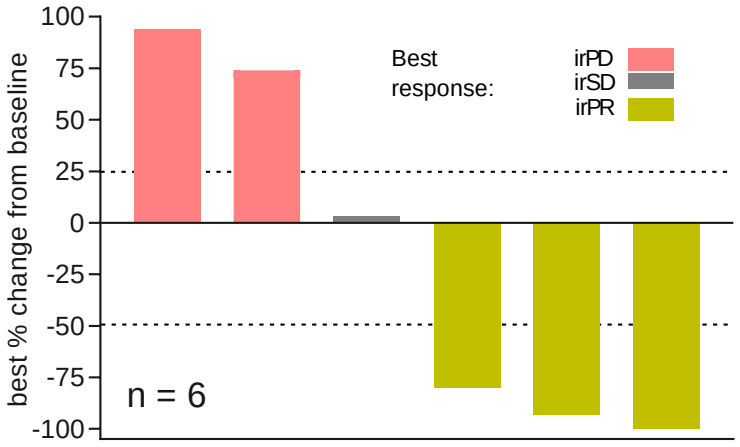
Best Overall Response acc. to irRC	N = 6 (%)
irCR	0 (0 %)
irPR#	3 (50 %)#
irSD	1 (13 %)
irPD	2 (25 %)
Best overall response rate (ORR)	**3 (50 %)**
Patients with tumor shrinkage	**3 (50 %)**
Disease control rate	**4 (66 %)**

- incl. 1 pt with complete disappearance of all target lesions

Spider plot* (part B)



Waterfall plot* (part B)



preliminary data, cut-off February 2019

Efti - Clinical Development
TACTI-002 (Phase II)

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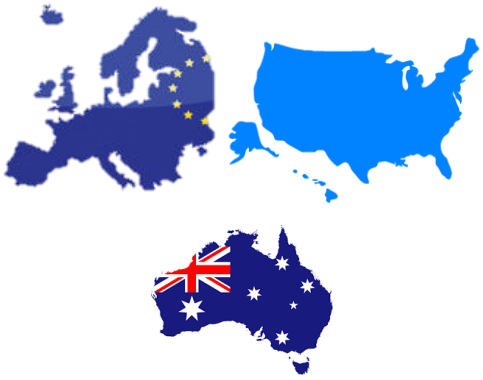
TACTI-002: Two ACTive Immunotherapeutics in different indications

Simon's 2 stage design; 3 indications; 109 pts → Efti (IMP321) + Pembrolizumab (Keytruda®) for 12 months + 12 months pembrolizumab mono → Phase II, multi-national (EU + US + AU), open label → **ORR,** PFS, OS, PK, Biomarker; Safety and tolerability

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

Status Report (Apr 2019)

- ✓ Fully approved in all countries (ES, GB, US, AU)
- ✓ >10 patients enrolled
- • First data expected mid 2019



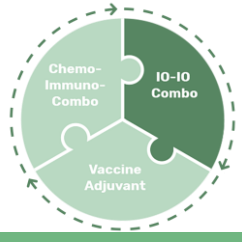
13 sites in Europe / US / Australia

In collaboration with

MERCK
INVENTING FOR LIFE

Key features: PD-X refractory patients (part B), chemo-free option for NSCLC, first FDA IND

NSCLC – non-small-cell lung cancer, HNSCC – head and neck squamous cell cancer, ORR – overall response rate, PFS – progression free survival, OS – overall survival, PK – pharmacokinetics, PD-X – any PD-1 or PD-L1 treatment



Efti - Clinical Development
INSIGHT-004 (Phase I)

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INSIGHT-004 – Dose escalation of efti in combination with avelumab

Dose escalation, solid tumors, 2 cohorts of 6 pts each → Efti (IMP321) + Avelumab (Bavenico®) for 6 months + 6 months avelumab monotherapy → Phase I, monocenter DE, open label, IIT → **RP2D, Safety,** ORR, PFS, PK, PD

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 (Apr 2019)

- ✓ 1 site in Germany
- ✓ Protocol approved by CA/ ED
- • First patient expected in Q2 2019

In collaboration with

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

Key features: safety with a PD-L1 antagonist avelumab

R2PD – recommended phase 2 dose, ORR – overall response rate, PFS – progression free survival, OS – overall survival, PK –pharmacokinetics

Eftilagimod Alpha Partnerships

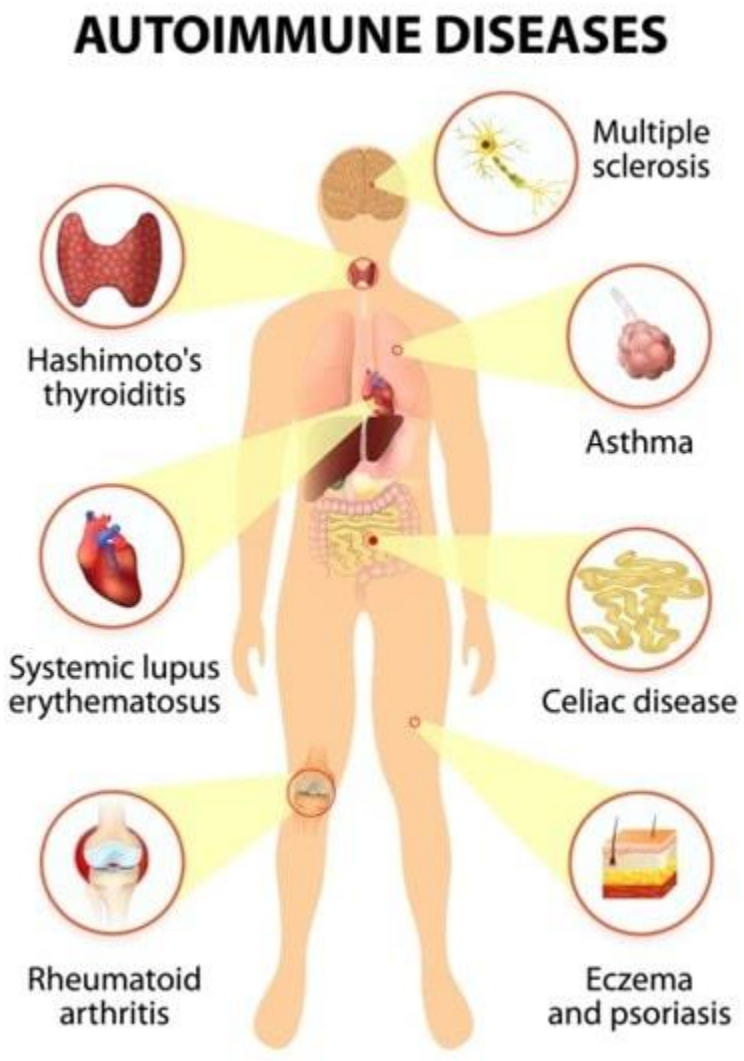
- Eddingpharm holds Chinese rights
- Chinese IND for IMP321 granted in Dec 2017 -> USD1m milestone paid to Immutep
- EOC, an Eddingpharm spin-off holding the Chinese rights for IMP321, Phase I study in MBC ongoing
- Milestone and royalty bearing partnership for Immutep

- Spin off from NEC, Japan. Est. Dec 2016; aims to develop cancer drugs discovered by artificial intelligence
- Multiple Material Transfer Agreements; Clinical Trial Collaboration
- Preclinical and clinical research ongoing

- Strategic supply partnership for the manufacturing of eftilagimod alpha
- Through WuXi, Immutep was first company ever to import and use a Chinese manufactured biologic in a European clinical trial

IMP761
(Autoimmune Diseases)

Broad Potential in Targeting Auto-reactive Memory T cells with IMP761



THE PRESENT: FIGHTING SYMPTOMS

Treating general inflammation:
corticoids, methotrexate,
anti-TNF-α, -IL-6, -IL-17, -IL-23 mAbs

THE FUTURE: FIGHTING THE CAUSE OF AID

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

IMP761 – Agonist mAb

Key Characteristics

- Humanized IgG4 monoclonal antibody
- First and best in class LAG-3 agonist mAb
- Mechanism of action: temporarily switches off LAG-3 positive chronically activated T-Cells

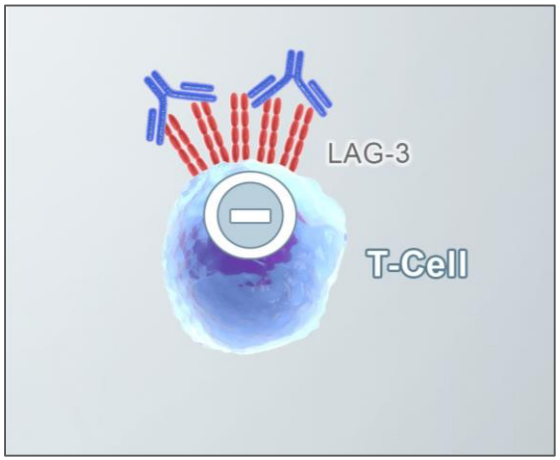
Development Activities

✓ *In vitro/ in vivo studies* completed (cynomolgus monkey)

✓ Cross-reactivity studies completed

✓ CHO cell line development for GMP production started in Q3 2018

IMP761



Partnered Programs

IMP731 (GSK‘781) for Autoimmune Diseases

- GSK holds exclusive WW rights
- Jan 2015: Immutep received a single-digit million US$ milestone payment
- Up to €64m in total upfront payments and milestones, plus royalties
- GSK2831781 in Phase I trials with potential regulatory filing expected within 2021-2025 timeframe[1]
- Portfolio review at GSK in 2017 -> IMP731 continued despite cancellation of 13 clinical and 20 preclinical programs
- Study completion date: March 2018 with 67 patients (see http://www.gsk-clinicalstudyregister.com/study/200630#ps)

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

[1] see slide 108 of GSK investor presentation of 11/03/15

IMP701 (LAG525) for Cancer

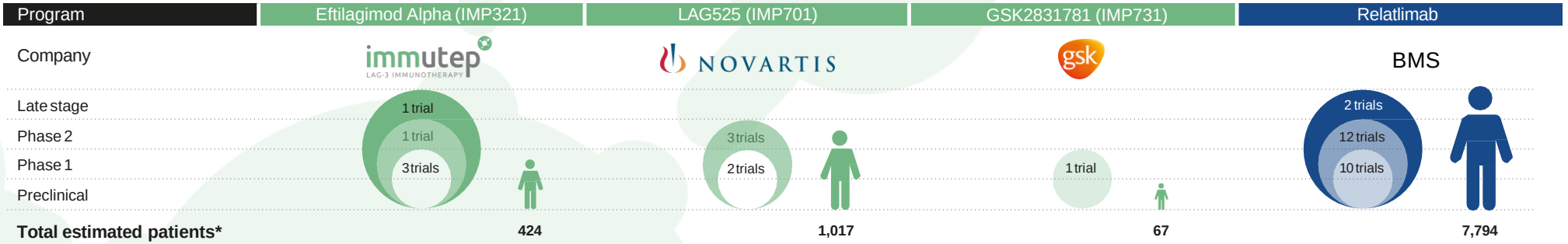
- Novartis holds exclusive WW rights
- August 2015: Start of Phase I study of IMP701 in combination with PDR001 (anti-PD-1 mAb) in 13 different cancer indications in 240 patients (now increased to 515 pts)
- 1st and 2nd Milestone payments received in Aug 2015 and August 2017, respectively
- Estimated study completion date is April 2019
- December 2017: new Phase II study of IMP701 in combination with PDR001 in advanced solid and hematologic malignancies in 160 patients made public
- April 2018: two new Phase II combination studies made public that planned to begin in mid 2018 in TNBC (126 pts) and metastatic mel. (160 pts)
- Nov 2018: one new Phase Ib made public TNBC (220 pts)

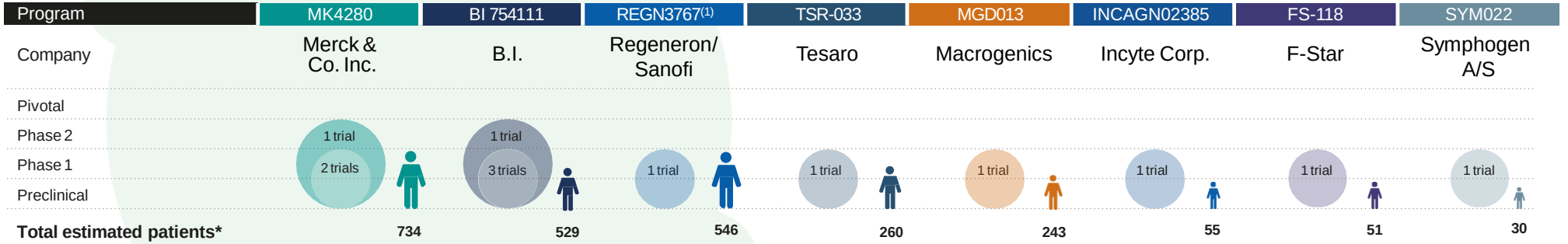
- **IMP701 is an anti-LAG-3 mAb that blocks LAG-3-mediated immune down-regulation**
- **LAG-3 is a prime target for immune checkpoint blockade as it is readily expressed at a high level in many human tumors**

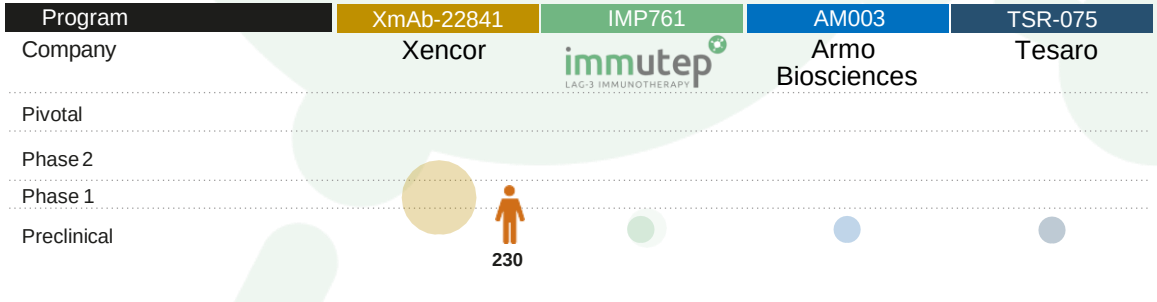
LAG-3 Landscape

LAG-3 Therapeutic Landscape Overview

Immutep is the leader in developing LAG-3 modulating therapeutics







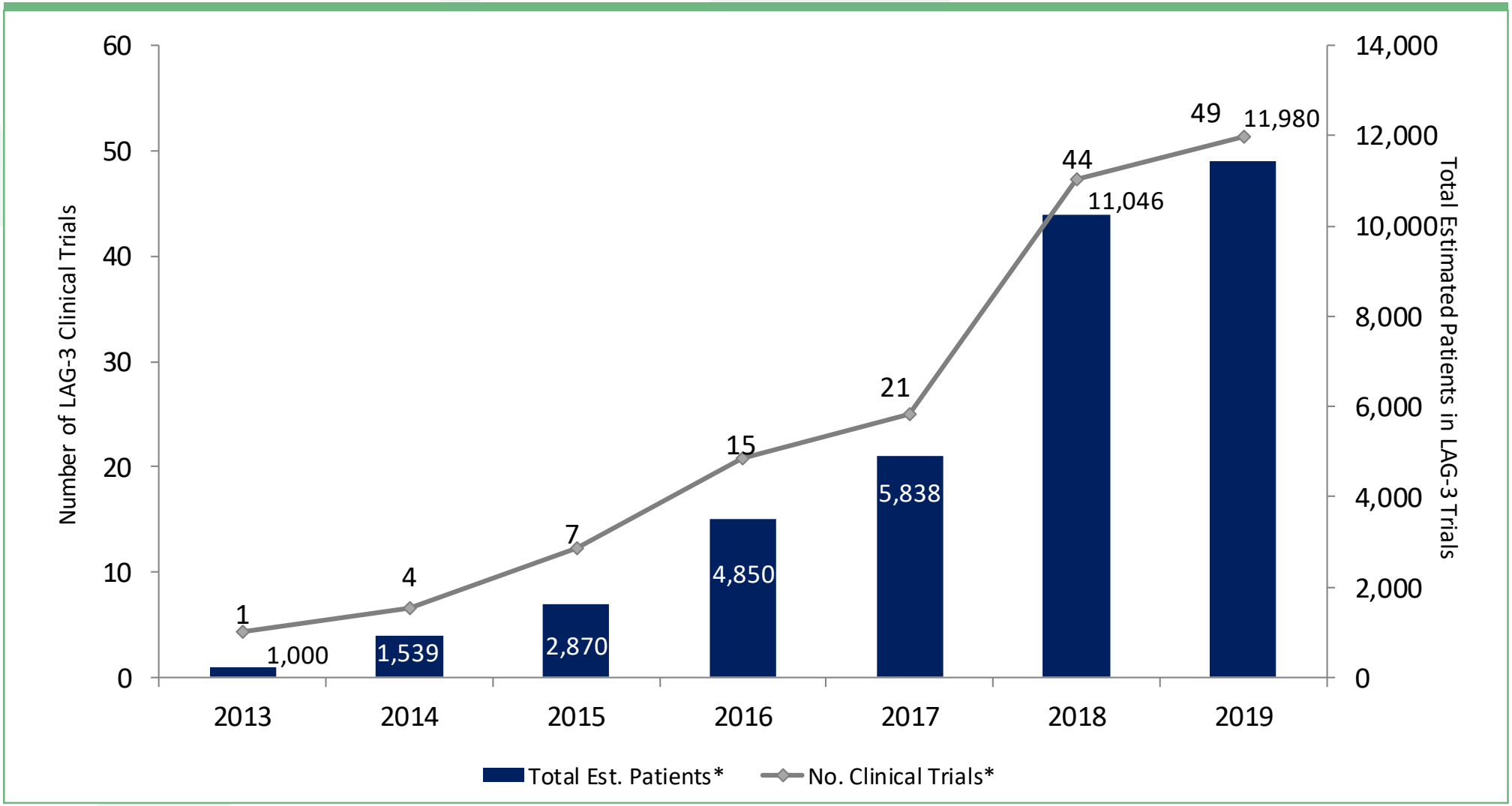
Indicates one product; size indicates stage of development, green = product either developed by Immutep or under license from Immutep

Indicates No. of patients on trials

Notes:
Sources: GlobalData, company websites, clinical trials.gov, and sec.gov
Information as of March 1, 2019, includes planned and completed trials, includes trials where the company may not be the sponsor
(1) As per Sanofi 6-K filing (February 2, 2019) development of REGN3767 has stopped

Increasing Clinical Trials Targeting LAG-3

Industry increasingly deploying resources to development of LAG-3 therapeutics

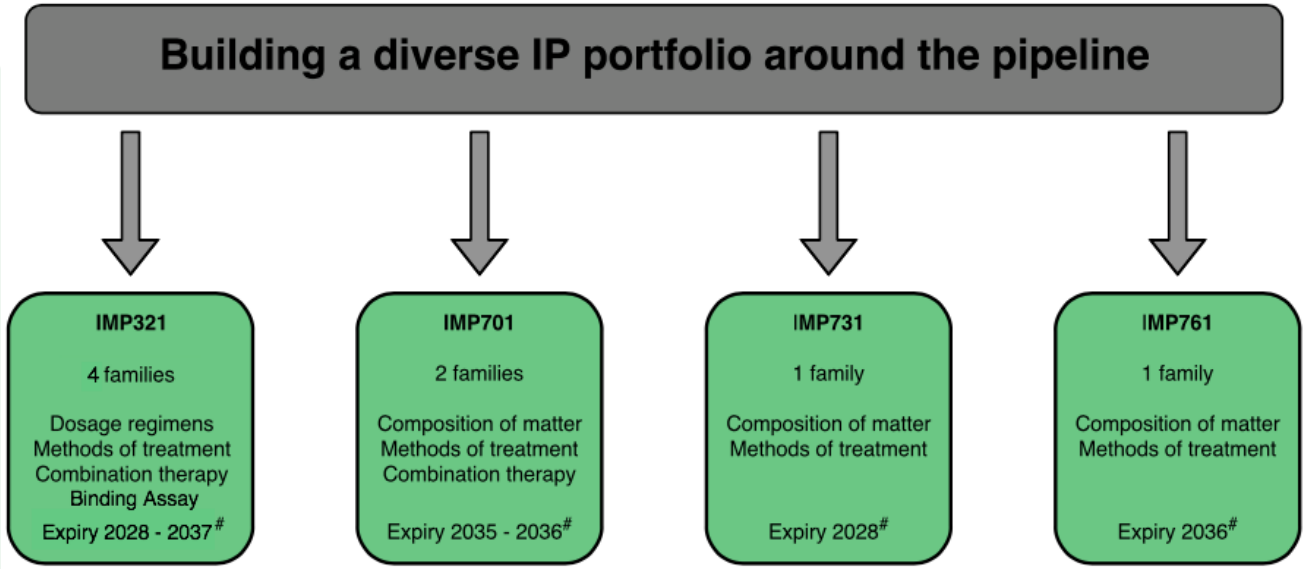


Sources: GlobalData, company websites, clinical trials.gov, and sec.gov
Information as of March 1, 2019
*2019 includes planned and completed trials, includes trials where the company may not be the sponsor

IP & Outlook

Intellectual Property

Immutep has a strong and continually expanding patent portfolio across major geographic markets and unrivalled expertise and understanding of the LAG-3 immune control mechanism



#Plus up to a 5 year extension of term available in some circumstances to compensate for delay associated with obtaining regulatory approval.

2019 Clinical Guidance and Outlook

- ✓ TACTI-002 to commence, Phase II trial in collaboration with MSD: H1 2019
- ✓ TACTI-mel data from fourth patient cohort (30 mg dose at cycle 1) in 2019
- ✓ IMP761 program update: 2019
- ○ INSIGHT-004 to commence, IIT Phase I trial in collaboration with Pfizer and Merck KGaA: Q2 2019
- ○ TACTI-002 first data in mid-2019
- ○ INSIGHT program updates: 2019
- ○ TACTI-mel final assessment
- ○ AIPAC fully recruited: Q2 2019
- ○ AIPAC first progression free survival data (metastatic breast cancer trial): next four quarters, but not before Q4 2019

Investment Highlights

Global leader in developing LAG-3 therapeutics for immuno-oncology and autoimmune diseases

Deep expertise and IP in the LAG-3 immune control mechanism

Broad portfolio of LAG-3 product candidates developed by Company

Relationships with multiple industry leaders, including Merck (MSD), Pfizer/ Merck KGaA, GSK and Novartis

Clinical data readouts expected throughout 2019