Prima BioMed

Annual General Meeting
CEO Presentation

November 17, 2017

ASX:PRR; NASDAQ:PBMD

Marc Voigt

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2017 Highlights

Corporate

- Sound financial management
- First raise in the US (Registered Direct)
- Overseas advance tax finding
- JP Morgan, ASCO, ESMO, WCI, SITC conferences
- New team members
- 3 Patents granted

R&D

- TACTI-mel two cohorts recruited, 3rd underway – encouraging data
- AIPAC safety run in completed, randomized phase progressing - first safety, activity, PK and IM data positive
- INSIGHT (Investigator Initiated Trial study) started, Frankfurt, Germany
- New product candidate: IMP761

Collaborations

- Ongoing clinical development of our partners GSK and Novartis
- Novartis: milestone received
- MTA for IMP321 with CYTLIMIC
- EOC IND application in China
- Partnership & grant with Monash University

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Key Financials

Ticker	ASX PRR;NASDAQ PBMD
Market Cap	A$63.8M (10 Nov 17)
Shares on Issue	2,362,662,532 (10 Nov 17)
Net Loss FY17	A$9.4M (FY16: A$62.0M)
G&A Expenses FY17	A$4.3M (FY16: A$7.0M)
R&D and IP Expenses FY17	A$7.5M (FY16: A$7.1M)
Revenue and other income FY17	A$4.2M (FY16: A$2.0M)
Cash in Bank	A$16.2M (31 Oct 17)

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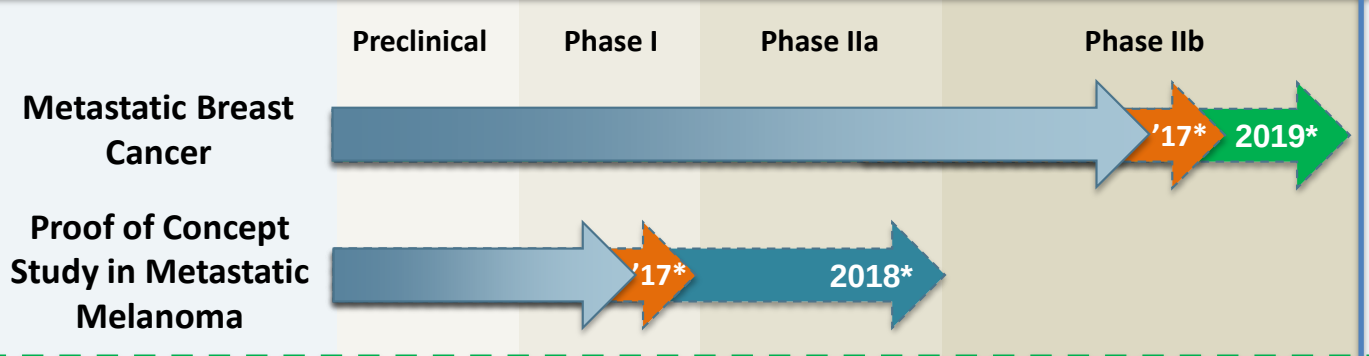
PROGRAM UPDATE

Oncology and Autoimmune Pipeline

LAG-3 Technologies

Eftilagimod Alpha (LAG-3Ig or IMP321), APC Activator – Fusion Protein



Partners

WW Prima
(ex China: Eddingpharm)
Phase IIb trial began Oct 2015
MOA: APC activator following first-line chemotherapy

WW Prima
(ex China: Eddingpharm)
Phase I trial began Jan 2016
MOA: APC activator + PD-1 checkpoint inhibitor

Eftilagimod Alpha (INSIGHT) – Investigator Sponsored Clinical Trial**

Cancer

IMP731 (Depleting AB)

Autoimmune Diseases

WW GSK
Phase I trial began Jan 2015
Estimated Completion Date Aug 2018***
MOA: LAG-3 depleting antibody

IMP701 (Antagonist AB)

Cancer

WW Novartis
Phase I trial began Aug 2015
Estimated Completion Date April 2019***
MOA: LAG-3 antagonist antibody

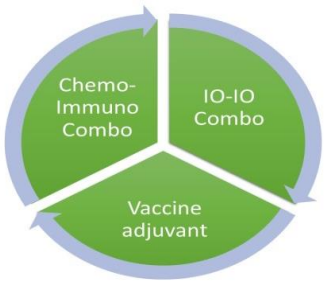
IMP761 (Agonist AB)

Autoimmune Diseases

WW Prima
MOA: LAG-3 agonist antibody

Cell Therapy: CVac™ - divested to and controlled by Sydys Corporation

*Expected timing of data readouts. Actual results may differ.
** INSIGHT clinical trial controlled by lead investigator and therefore Prima has no control over this clinical trial
*** As per clinicaltrials.gov (November 5, 2017)



Eftilagimod Alpha (IMP321) Potential Application

New International Nonproprietary Name granted by international authority (WHO) for IMP321: Eftilagimod Alpha

Potential combination therapy strategies:

- **Chemo-immunotherapy** in various cancer indications
  - Combination therapy with active agents such as Taxanes (e.g. Paclitaxel), anthracyclines, alkylating agents & anti-metabolites
  - Potential combination therapy strategies based on a comparably mild safety profile and potential synergistic effects

- **I-O combination** in various cancer indications
  - With PD-1, PDL-1 or CTLA-4 antagonists
  - Potential combination therapy strategies based on a comparably mild safety profile and potential synergistic effects

- **Cancer vaccine or intra-tumoral injections**
  - To locally stimulate the immune system

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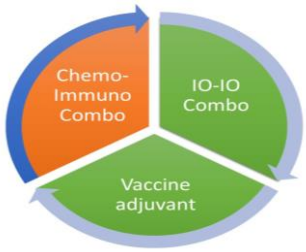

AIPAC- Active Immunotherapy with PAClitaxel

Chemoimmunotherapy – adding an antigen presenting cell (APC) activator after chemotherapy treatment to boost immune responses.

- ✓ Encouraging scientific advice from EMA July 2015
- ✓ Initiated Dec 2015
- ✓ First patient dosed Feb 2016
- ✓ First safety, PK and immune monitoring (IM) data June 2016 – dose escalation
- ✓ Second safety cohort recruitment completed
- ✓ ASCO 2017 presentation of safety cohort
- ✓ 2017: regulatory CTA approval in 7 European countries
- ✓ Start of randomized phase (226 pts) started in Jan 2017

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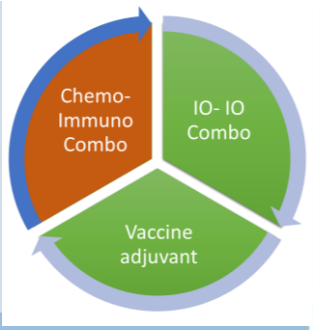
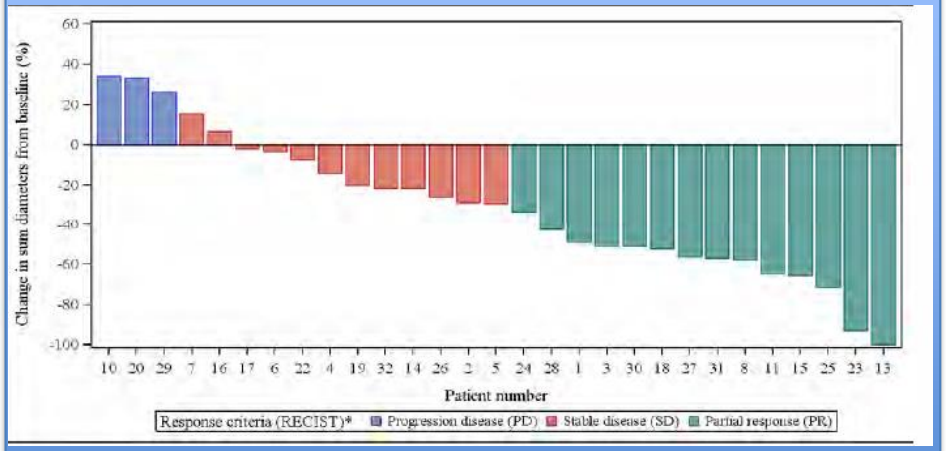


Eftilagimod Alpha – Preliminary Efficacy
Metastatic Breast Cancer – 1st chemotherapy + IMP321

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

P005 – phase I (n=30)



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

AIPAC (P011) – phase I trial (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 September 2017, best response acc. To RECIST 1.1

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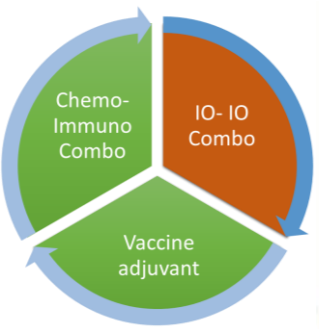

TACTI-mel Two ACTive Immunotherapies in melanoma

Combination therapy – combining an APC activator and a checkpoint inhibitor to kick start the immune response after removing the brake.

- ✓ Initiated Jan 2016
- ✓ Being conducted at 6 sites in Australia
- ✓ First cohort finished (safety) Dec 2016
- ✓ Second cohort finished (safety) March 2017
- ✓ Data presentation at SITC Nov 2017

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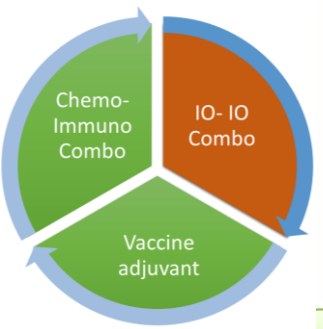
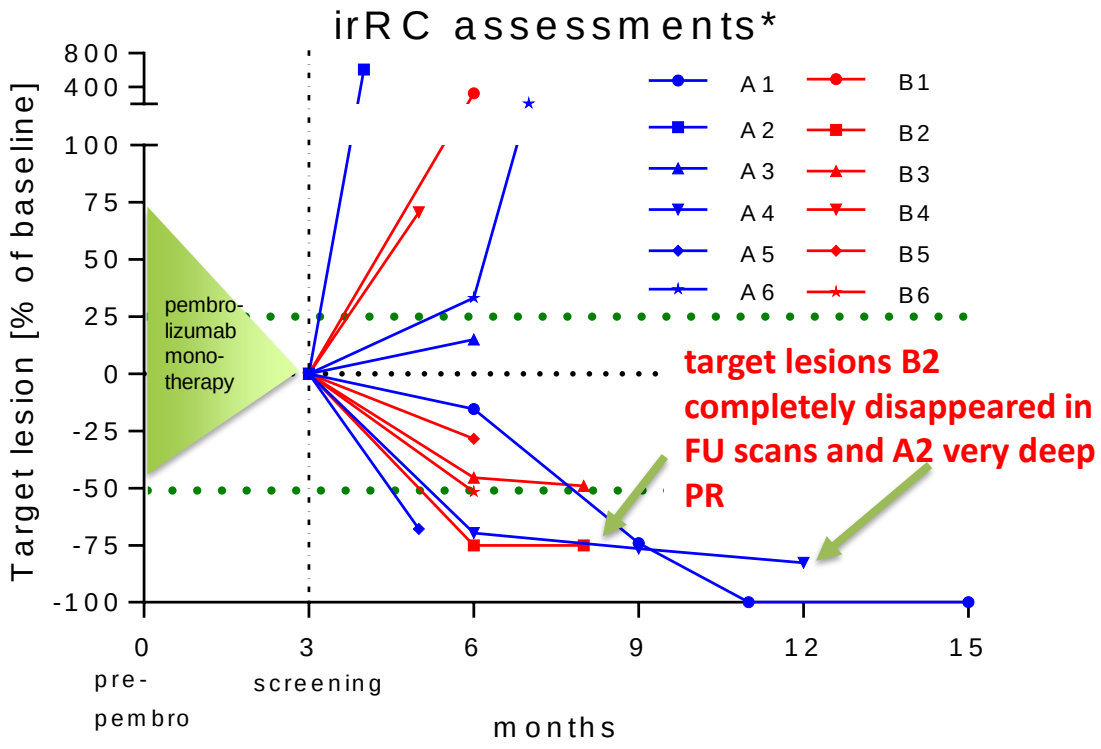


Eftilagimod Alpha – Preliminary Efficacy
Metastatic melanoma with suboptimal response to pembro

TACTImel (P012) – phase I trial, 1 (cohort 1) + 6 (cohort 2) mg IMP321



Response parameter (irRC), n (%)	Total (n=12)
irCR	1 (8)
irPR	3 (25)
irSD	3 (25)
irPD	5 (42)
RR	4 (33)
DCR	7 (58)
Patients with tumor reduction	7 (58)

* - according to study protocol patients receive pembrolizumab monotherapy for 3 cycles. Patients suboptimally responding to or progressing on pembrolizumab are screened and receive combination treatment beginning with cycle 5 (after 3 months) onwards

- **Late stage patients with visceral disease (83 %) and elevated LDH (67 %)**
- **7/12 (58 %) patients with suboptimal response or progression on pembrolizumab had a tumor reduction during the study**
- **Combination safe and well tolerated to date, no DLT**

preliminary data, status 06th November 2017

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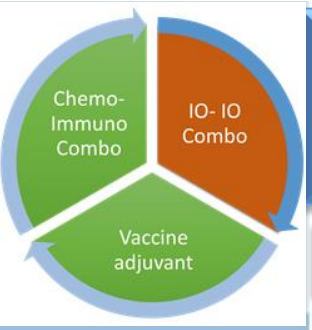
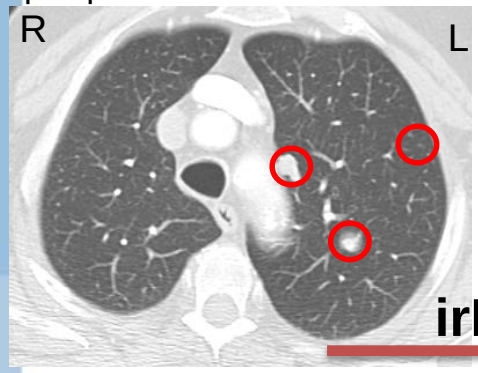


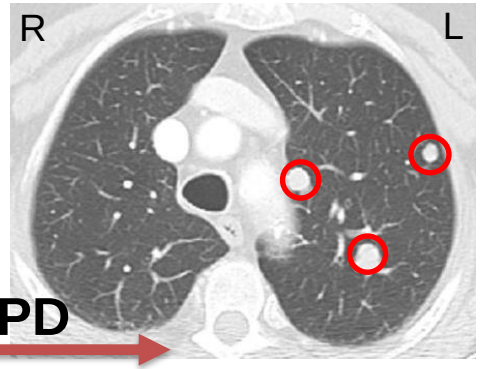
IMP321 - TACTI-mel
Patient 02-01 (1 mg): Preliminary results

Efficacy: metastatic melanoma - spread to the lung

pre-pembro

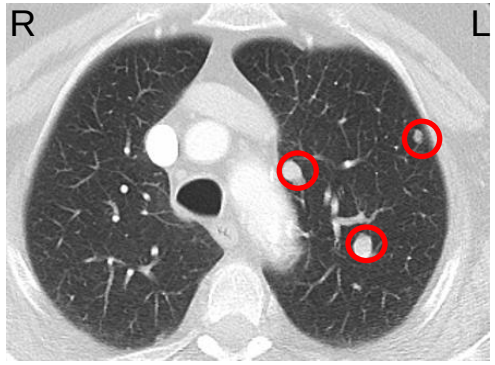


week 9 (pembro)

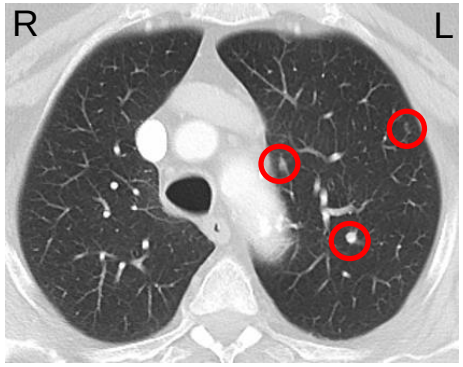


irPD

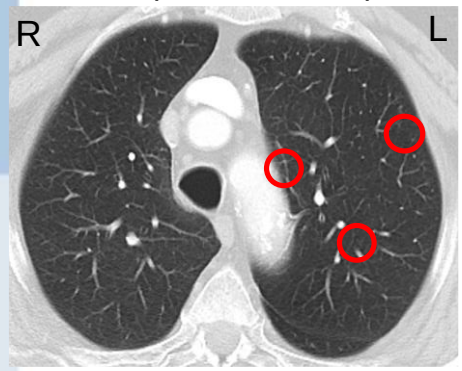
week 25 (combo)



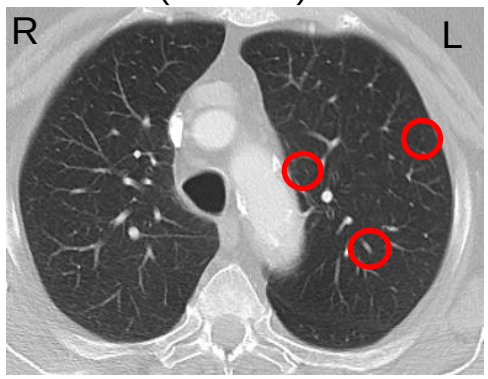
week 37 (combo)

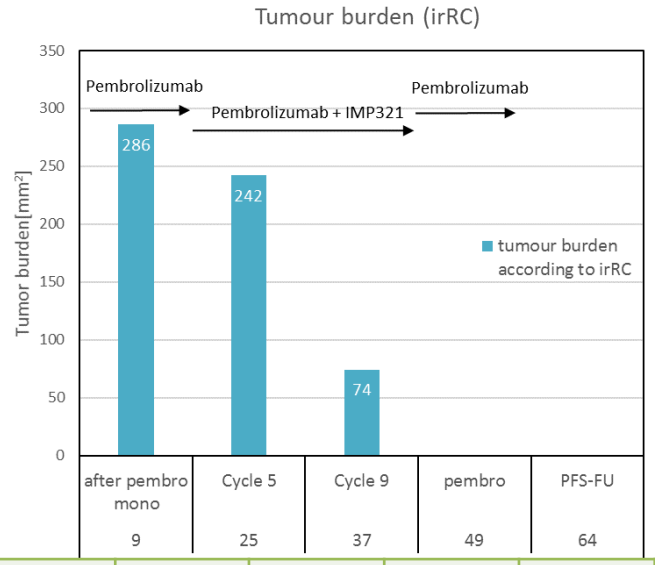


week 49 (Pembro mono)



week 64 (PFS-FU)

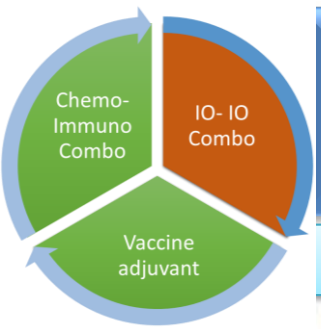




All lesions disappeared → Complete Remission (confirmed)
Patient without further treatment but disease free

Sum Target Lesions	286 mm²	242 mm²	74 mm²	0 mm²	0 mm²
In %	100%	85%	26%	0%	0%
irRC	N/A	irSD	irPR	irCR	irCR

preliminary data, status 06th November, 2017

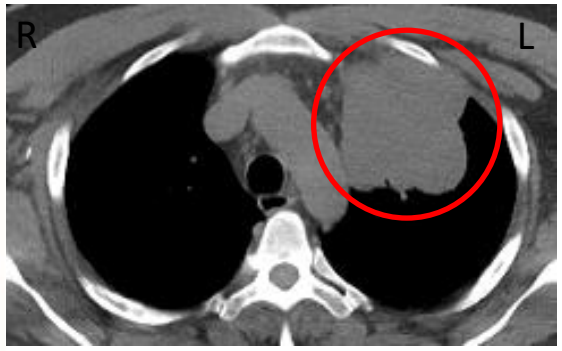


TACTI-mel

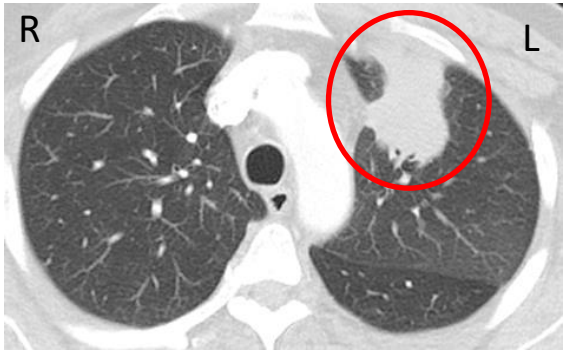
Patient A4 (1 mg): Preliminary results

Efficacy: metastatic melanoma - spread to the lung

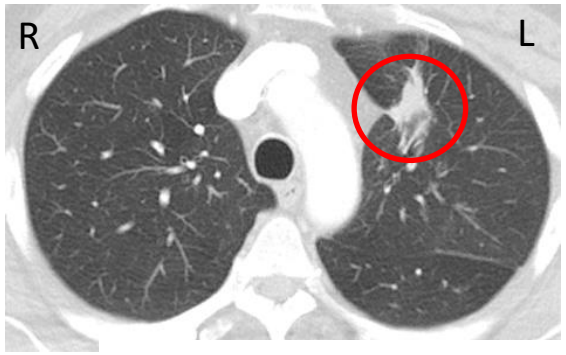
Pre-Pembro



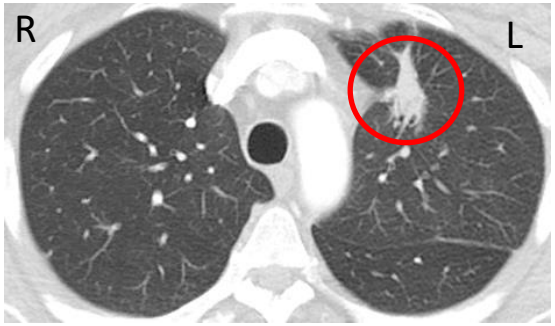
week 13 (pembro)



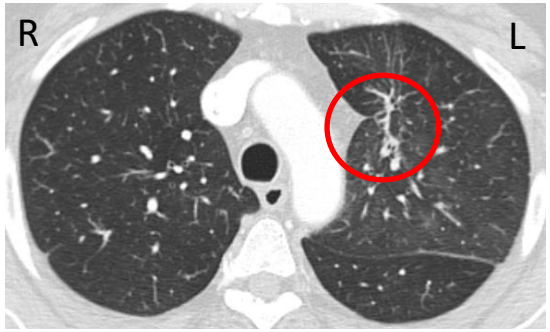
week 29 (combo)

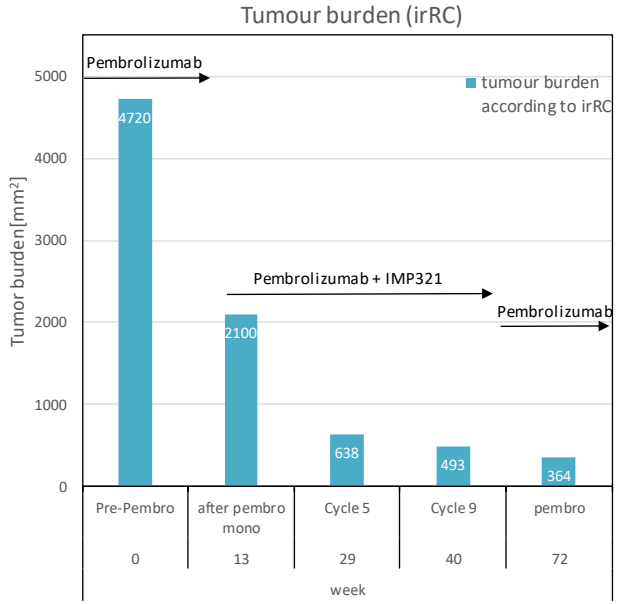


week 40 (combo)



week 72 (pembro)

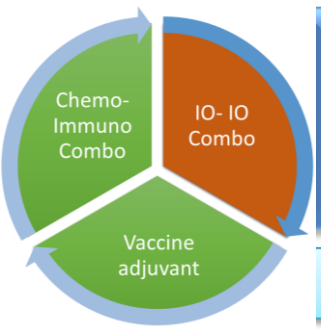




- Very deep response (confirmed irPR) after start of combo
- pt completed 6 months Pembro + IMP321 → continues on pembro mono
- **Target lesions are highly reduced after combo treatment, complete disappearance of non-target lesions**

Sum Target Lesions	4720 mm²	2100 mm²	638 mm²	493 mm²	364 mm²
compared to combo start		100 %	30 %	23 %	17%
compared to pre-pembro	100 %	44 %	14 %	10 %	8%
irRC	N/A	irPR	irPR	irPR	irPR

preliminary data, status 15th November, 2017

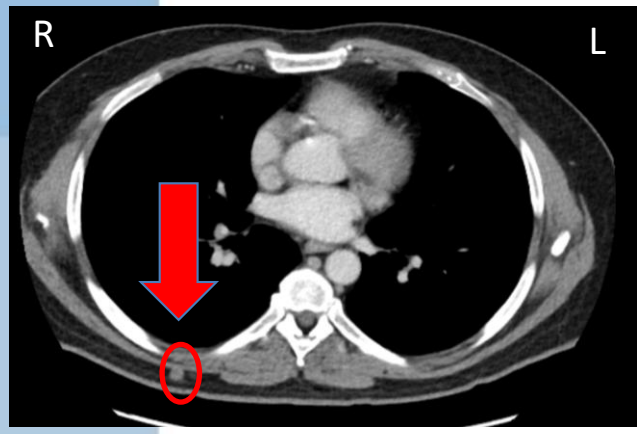


TACTI-mel

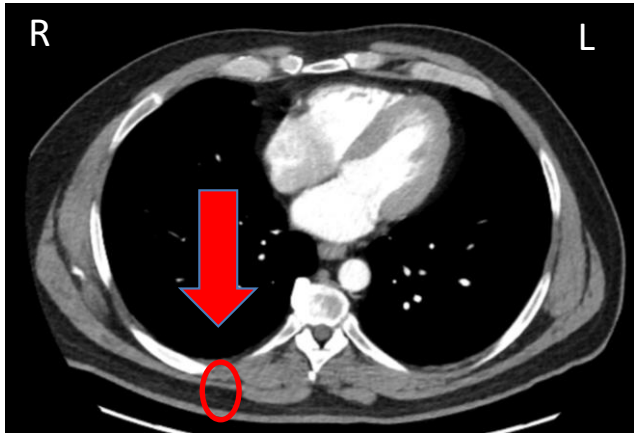
Patient B2 (6 mg): Preliminary results

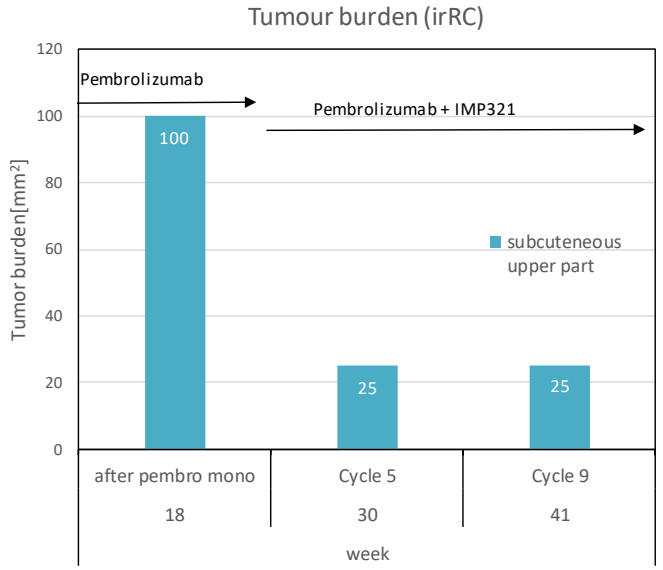
Efficacy: metastatic melanoma

Week 18 (pembro)



week 41(combo)





- Patient entered with irSD on Pembro monotherapy
- Confirmed irPR after start of combo → pt completed 6 months Pembro + IMP321
- Target lesion disappears at week 41 (25 mm^3 default value entered due to 5 mm CT section thickness); **disappearance confirmed by FU PET scan but non-target lesions still present**

Sum Target Lesions	100 mm^2	25 mm^2	25 mm^2
In %	100 %	25 %	25 %
irRC	N/A	irPR	irPR

preliminary data, status 15th November, 2017

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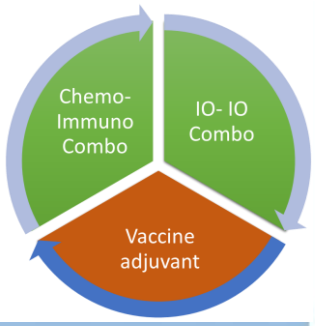
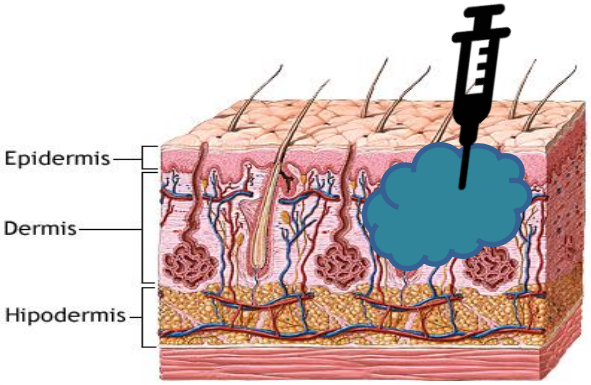


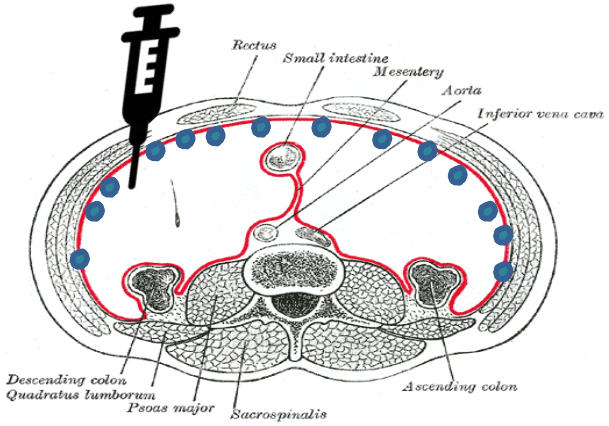
INSIGHT: IMP321 in i.t. and i.p. Application
Investigator Initiated Trial

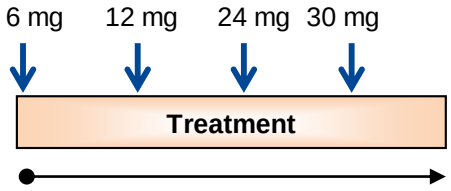
- Prof. Al-Batran, IKF, Frankfurt, Germany
- Population: 18 pts (9 per stratum) with advanced solid tumors w/o standard treatment options
- Objectives: Recommended phase II dose, PD effects of IMP321
- Design: intrapatient escalation

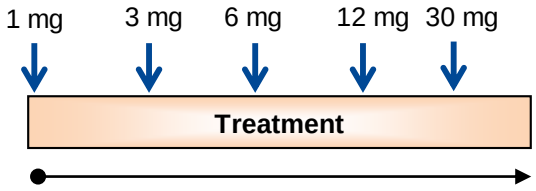
Group A: intratumoral (i.t.)



Group B: intraperitoneal (i.p.)







Group A:
- 1st pt completed escalation w/o DLT,
- 2nd pt ongoing

Group B:
- 1st pt ongoing

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https://cdn.thinglink.me/api/image/578616053681094658/1240/10/scaletowidth

Partnership Updates I

GSK

- GSK2831781, GSK's investigational product derived from **IMP731** antibody, in ongoing clinical trial in the context of autoimmune diseases
- Phase I study expected to be finished in Aug 2018
- Portfolio review at GSK in 2017 -> IMP731 continued despite cancellation of 13 clinical and 20 preclinical programs

Novartis

- Novartis **LAG-525** derived from IMP701
- In June 2016, Novartis amended their trial to increase enrolment from 240 to 416 patients
- Milestone payment received in August 2017
- Estimated study completion date is April 2019

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Partnership Updates II: IMP321

- Chinese IND for IMP321 submitted in Feb 2017
- EOC, an Eddingpharm Spin-out holding the Chinese rights for IMP321, successfully closed $32 Million round for oncology assets in Nov 2017
- Milestone and royalty bearing partnership for Prima

- Spin off from NEC, Japan. Est. Dec 2016; aims to develop cancer drugs discovered by artificial intelligence
- Multiple Material Transfer Agreements regarding IMP321
- Preclinical and Clinical research ongoing

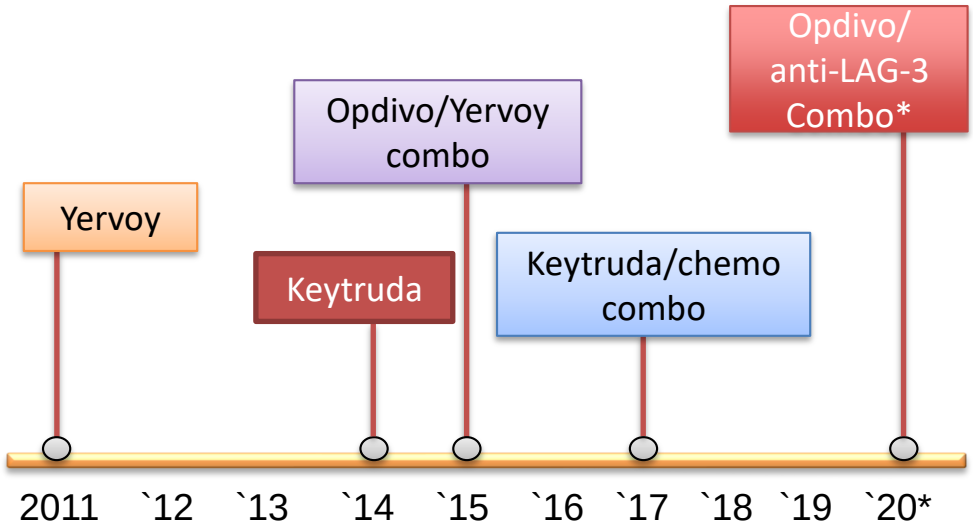
The Market Environment in IO

IO Therapy Landscape and Opportunity

Current Immuno-Oncology Therapies

- CTLA-4, PD-1 and PD-L1 antagonists approved for many indications → only 15 - 40% of solid tumors respond
- Combo Opdivo + Yervoy relatively toxic
- May 2017 approval of Keytruda/ chemo combination in lung cancer (NSCLC)

Evolution of Immuno-Oncology Therapies



- **<u>Opportunity for IMP321:</u>**
  - ✓ Potential synergistic effect with current I-O therapies → may enhance tumor response to treatment
  - ✓ IMP321 has excellent safety
  - ✓ Unique MoA (potential synergies)
  - ✓ European Phase 2b trial of IMP321 + chemo in breast cancer
  - ✓ Dose escalation Phase I of IMP321 + Keytruda (TACTI-mel) in melanoma ongoing → extension to other indications possible

*Expected timing, actual results may differ

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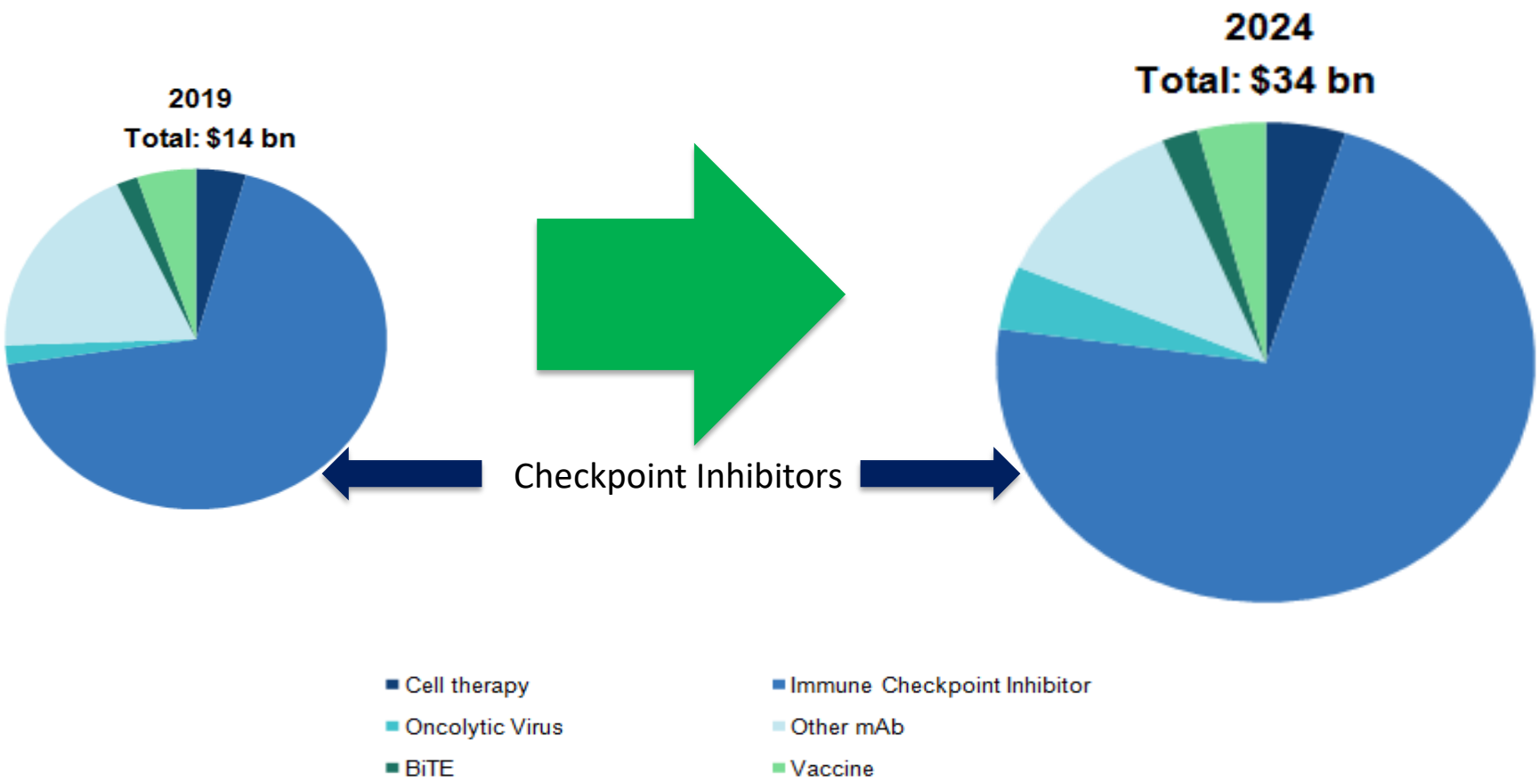
IO Sales by Approach (2019-2024)

IO Sales Are Estimated to Reach $34 billion in 2024 with Checkpoint Inhibitors Accounting for the Largest Market Share



Source: Global Data, Immuno-Oncology Strategic Insight: Multi-Indication and Market Size Analysis (May 2016)

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Breast Cancer Market Opportunity

IO Sales Are Estimated to Reach $34 billion in 2024 with Checkpoint Inhibitors Accounting for the Largest Market Share

HER2-Negative Breast Cancer (8 Major Pharma Markets) Key Statistics

2015 Epidemiology	
HER2- Breast Cancer Incident Cases	910,016

2015 Market Sales	
US	$3.2B
5EU	$1.3B
Japan	$554M
China (urban)	$337M
Total (8MM)	**$5.4B**

2025 Market Sales	
US	$5.4B
5EU	$3.0B
Japan	$1.2B
China (urban)	$1B
Total (8MM)	**$10.58B**

Source: GlobalData; primary research interviews and surveys conducted with key opinion leaders and high-prescribing physicians in the countries included in this report
5EU = France, Germany, Italy, Spain, and UK; 8MM = US, 5EU, Japan, and China; HER2 = human epidermal growth factor receptor type 2

PRIMA BIOMED

IP Portfolio

- Progress made with prosecution of Prima's global patent portfolio, including a number of new patent grants in key global markets, including:
  - US 9,579,382 (use of IMP321 in the treatment of cancer)
  - JP 6,169,734 (use of IMP321 in the treatment of infectious disease)
  - JP 6,177,735 (IMP731 & use in the treatment of autoimmune disease)
- Additional patent grants anticipated to follow shortly
- Recently entered national phase for the key 670 family application (combination of IMP321 and PD-1 inhibitor) in Europe, US and Japan and 10 other major markets
- Addition of James Flinn, a registered Australian Patent Attorney, to the Prima team in April 2017

PRIMA BIOMED

UPCOMING MILESTONES

Upcoming Milestones

Clinical

- Dec 2017: Update on clinical development
- Dec 2017: Last patient of 30 mg TACTI-mel expected – expansion planned
- Throughout 2018: TACTI-mel results from different cohorts
- Mid 2018: AIPAC should be fully recruited
- Throughout 2018: Single cases from INSIGHT study
- Preclinical data from IMP761

Other

- Potential milestone payments from partnerships in the coming years
- Continued expansion of IP
- Ongoing research efforts
- Regulatory interaction
- Ongoing active business development

PRIMA BIOMED

New Logo*

immutep
LAG-3 IMMUNOTHERAPY

Potential ticker symbols: ASX: IMM; NASDAQ: IMMP

* Name change subject to shareholder approval

PRIMA BIOMED

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NASDAQ: PBMD, ASX: PRR

Thank you!