



PRIMA BIOMED

NASDAQ: PBMD, ASX: PRR

Notice: Forward Looking Statements

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Prima BioMed

- Prima BioMed is a biotechnology company striving to become a leader in immunotherapeutic products for the treatment of cancer.
- Prima's main pipeline of products is based on the LAG-3 immune control mechanism that plays a vital role in the regulation of the T cell immune response.
- Prima BioMed is listed on the Australian Stock Exchange and on the NASDAQ Global Market in the US.

Recent Developments

- Dec 2015: Initiated the AIPAC Phase IIb study of IMP321 in metastatic breast cancer, with the first patient expected to be dosed in early 2016
- Dec 2015: Collaboration with Japanese Yamaguchi University of IMP321 as adjuvant with a cancer vaccine
- Nov 2015: TACTI-mel Phase I study in metastatic melanoma unveiled
- Oct 2015: Belgium competent authority approval for AIPAC Phase IIb study
- Aug 2015: Novartis milestone payment announced for IMP701 Phase I initiation
- Jul 2015: EMA advice supports initiation of AIPAC Phase IIb clinical trial in breast cancer with lead product IMP321
- May 2015: Financing with Ridgeback Capital (completed in August)
- May 2015: New IP for lead product IMP321 (covering different combinations; expires 2035)
- Jan 2015: GSK milestone payment received for IMP731 Phase I initiation

Directors & Officers



Lucy Turnbull, AO, Non-executive Chairman

Businesswoman and philanthropist; Boards of the Cancer Institute of NSW and Australian Technology Park

Albert Wong, Non-executive Deputy Chairman

Australian investment banker; several directorships



Marc Voigt, Executive Director & Chief Executive Officer

15+ years in leading positions in finance, venture capital and biotech industry

Prof. Frederic Triebel, PhD, CSO & CMO/Immutep SA

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



Pete A Meyers, Non-executive Director

CFO at TLOG; Previous Co-Head of Global Health Care Banking at Deutsche Bank

Russell J. Howard, PhD, Non-executive Director

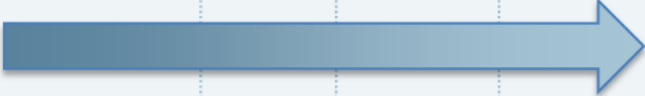
Scientist entrepreneur; CEO of Maxygen & Oakbio, positions at NIH, DNAX, Affymax



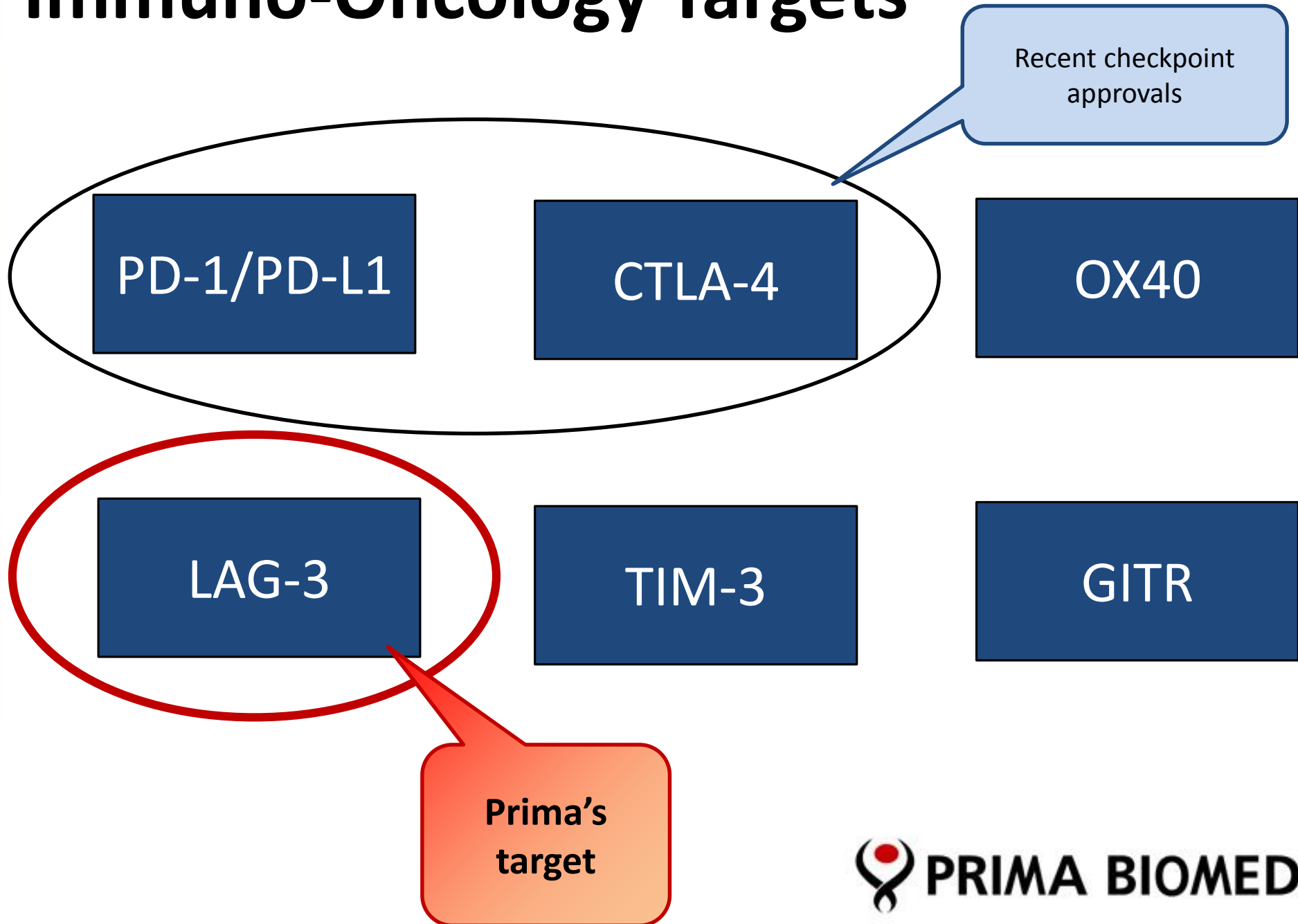
Deanne Miller, General Counsel & Company Secretary

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

Pipeline

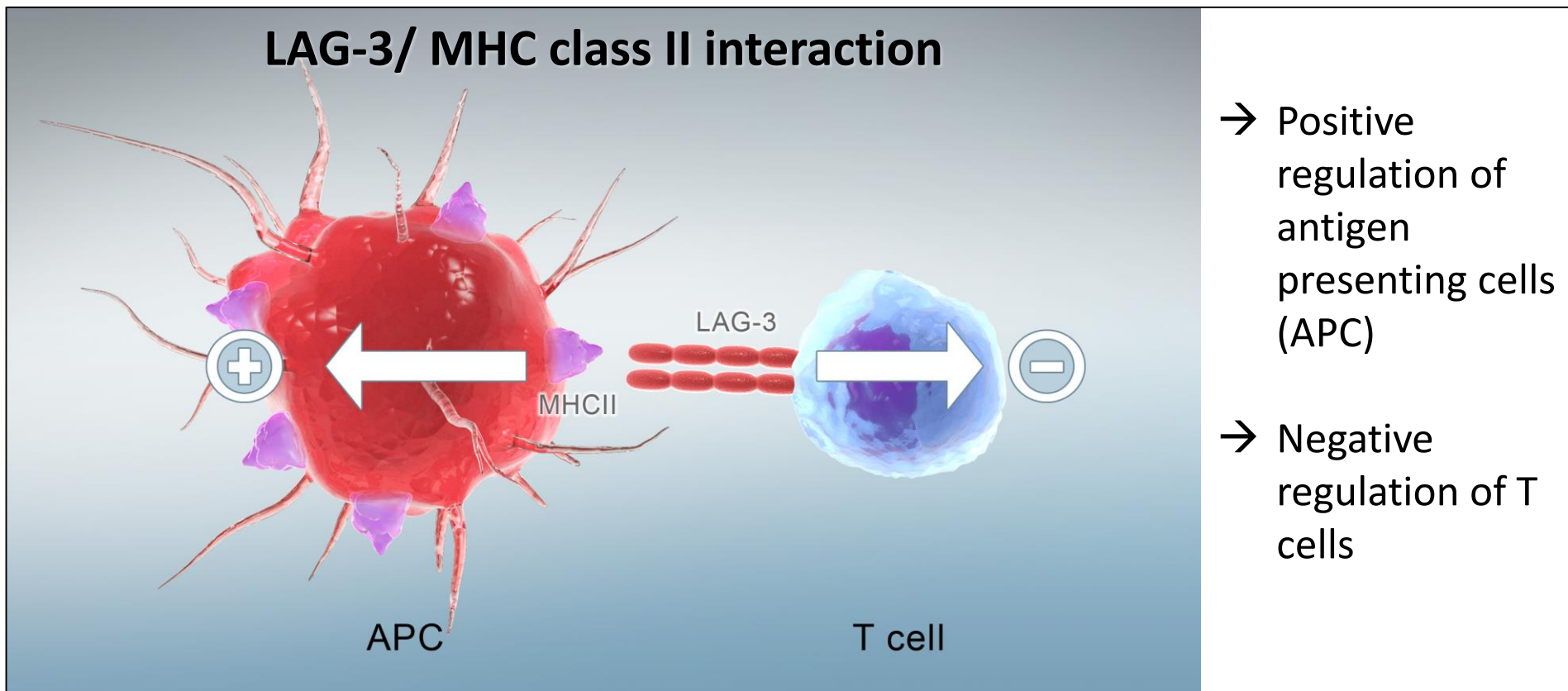
Partner	Portfolio	Indication	Preclinical	PhI	PhIIa	PhIIb	Status
<i>WW Prima</i> (ex China: Eddingpharm)	IMP321	Metastatic Breast Cancer					Phase IIb start date: Initiated 2015 MOA: APC activator used in chemo-immunotherapy combination
<i>WW Prima</i> (ex China: Eddingpharm)		Immuno-Immuno Combination Therapy in Melanoma					Phase I Estimated start date: Q1 2016 MOA: APC activator + checkpoint inhibitor
<i>WW GSK</i>	IMP731	Autoimmune Disease					Phase I trial began Jan 2015 Data expected in 2016 MOA: LAG-3 depleting antibody
<i>WW Novartis</i>	IMP701	Cancer					Phase I trial began Aug 2015 Data expected in 2017 MOA: Blocking LAG-3 antibody
<i>WW Prima</i> (ex Israel: Neopharm)	CVac™	Ovarian Cancer					Phase IIb completed Seeking partnership for future development MOA: Autologous dendritic cell vaccine (antigen: MUC-1)

LAG-3 is One of the 'Big Six' Immuno-Oncology Targets

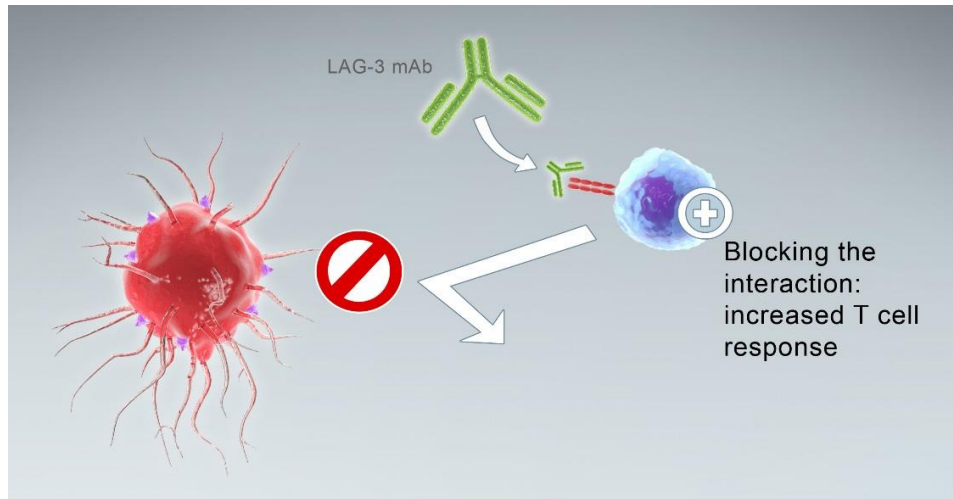


LAG-3 Technology

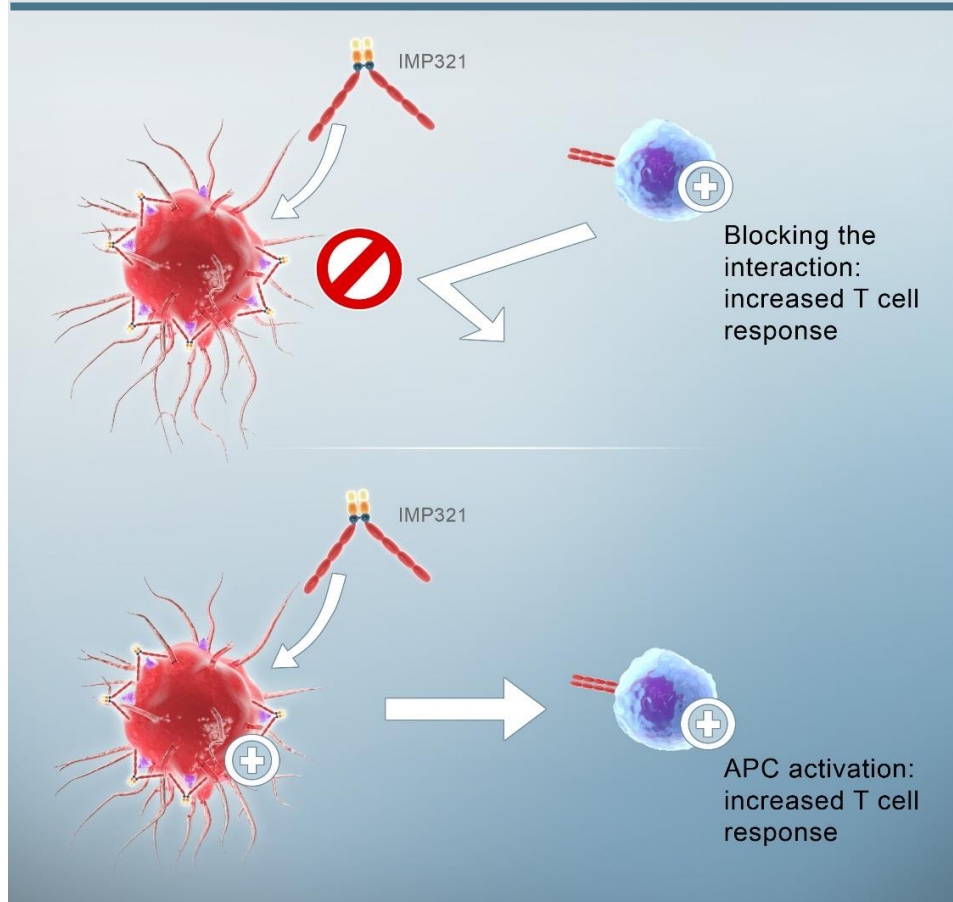
- LAG-3: “Lymphocyte Activation Gene-3”
- Involved in the regulation of T cells in immune responses
- Widely expressed on T cells, infiltrating human tumors
→ Prime target for an immune checkpoint blocker
- Functionally similar to CTLA-4 (targeted by Yervoy®) and PD-1 (Keytruda®)
- LAG-3: Checkpoint expressed on activated T-cells (like PD-1). Tumors use mechanisms to bind LAG-3 and inhibit T-cell proliferation, activation and tumor cell killing.



LAG-3 Mechanisms



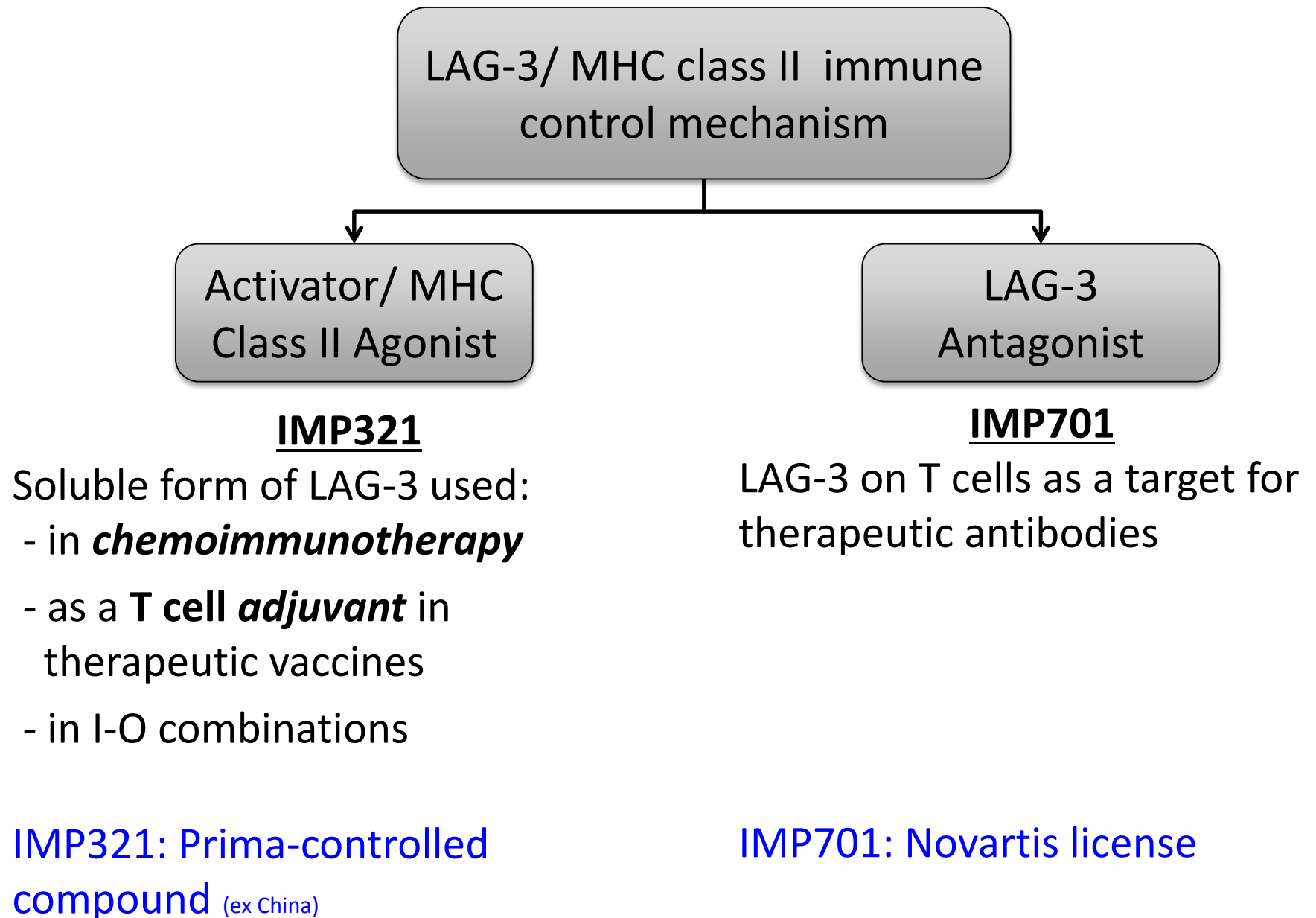
→ LAG-3 blocking mAb:
the typical immune
checkpoint inhibitor



→ LAG-3Ig fusion
protein (IMP321):
the atypical immune
checkpoint inhibitor

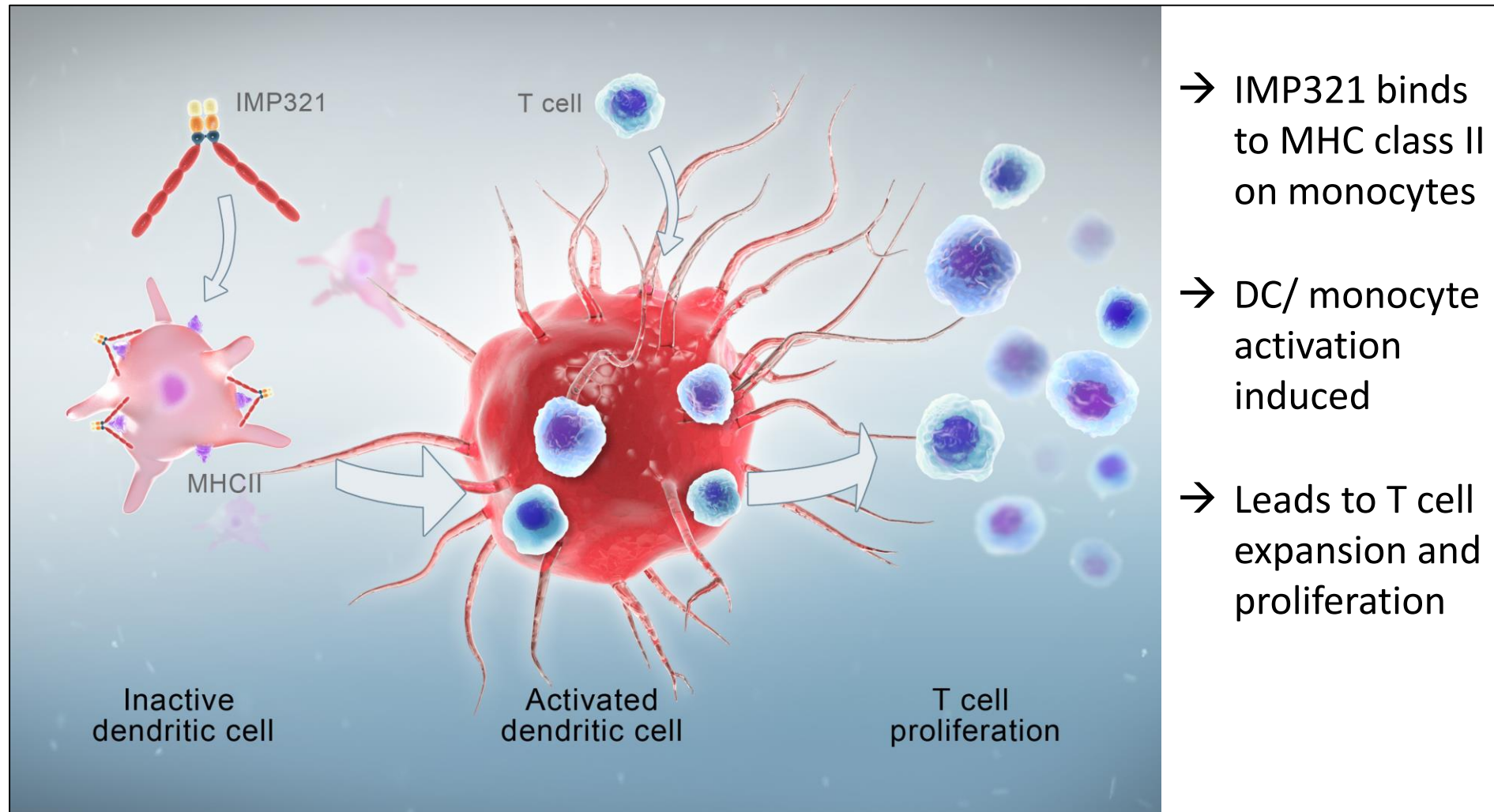
→ LAG-3Ig fusion
protein (IMP321):
the APC activator
(primary MoA)

Dual Technology Platform in Immuno-Oncology



IMP321

Soluble dimeric recombinant form of LAG-3 (fusion protein)



- Highly efficacious in multiple animal models of cancer and infectious disease
- Shown to be safe, non-immunogenic and efficacious in humans
- At low doses can be used as a T cell adjuvant for cancer vaccines

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

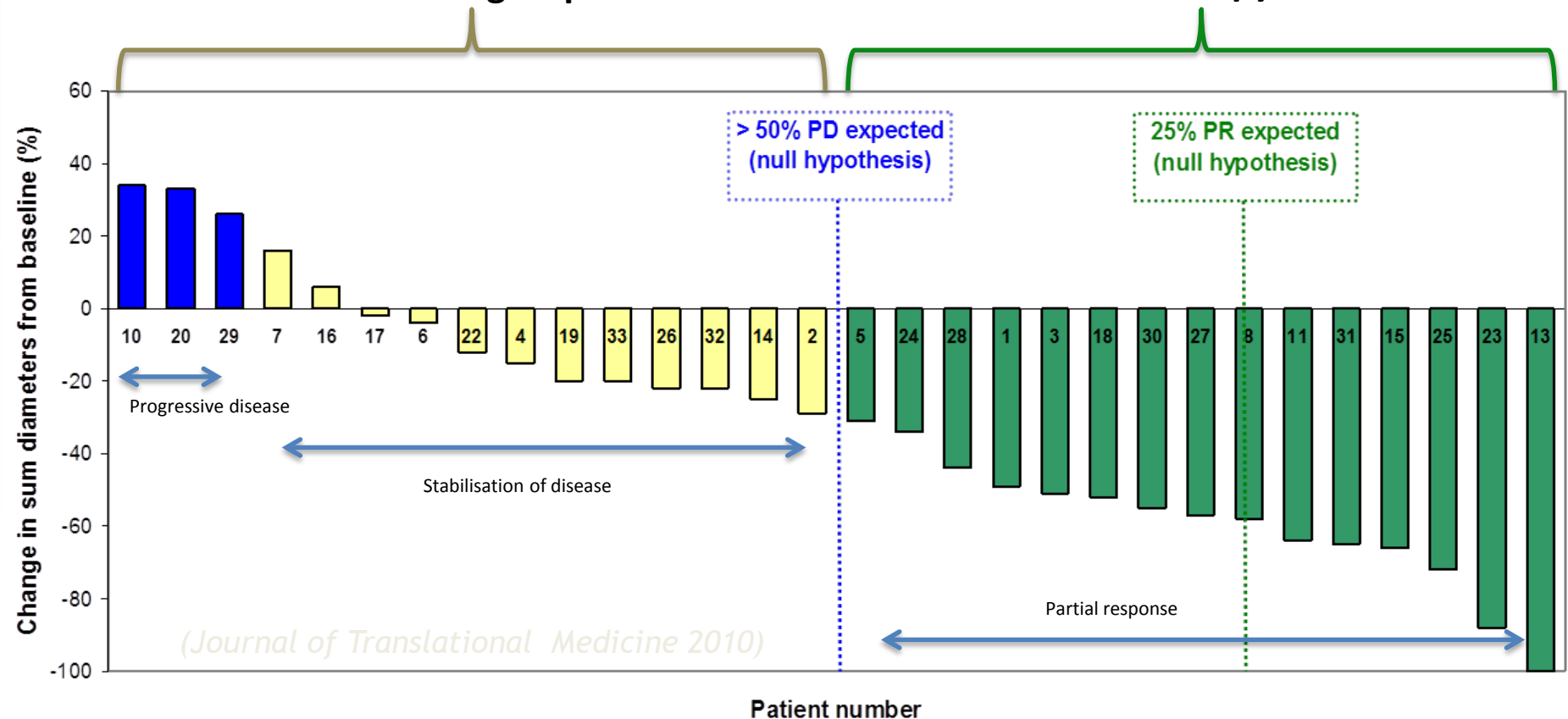
IMP321 Phase IIa Data in Metastatic Breast Cancer (MBC)

Compared to the historical control group

(254 patients with measurable disease at baseline on weekly, 3 weeks out of 4, paclitaxel (ECOG 2100 study)*

Clinical benefit: Only 10 % of IMP321 patients progressed in contrast to more than 50% of patients in the historical control group

A 50% response rate was observed in IMP321 patients versus 25% in the historical control group receiving chemotherapy alone

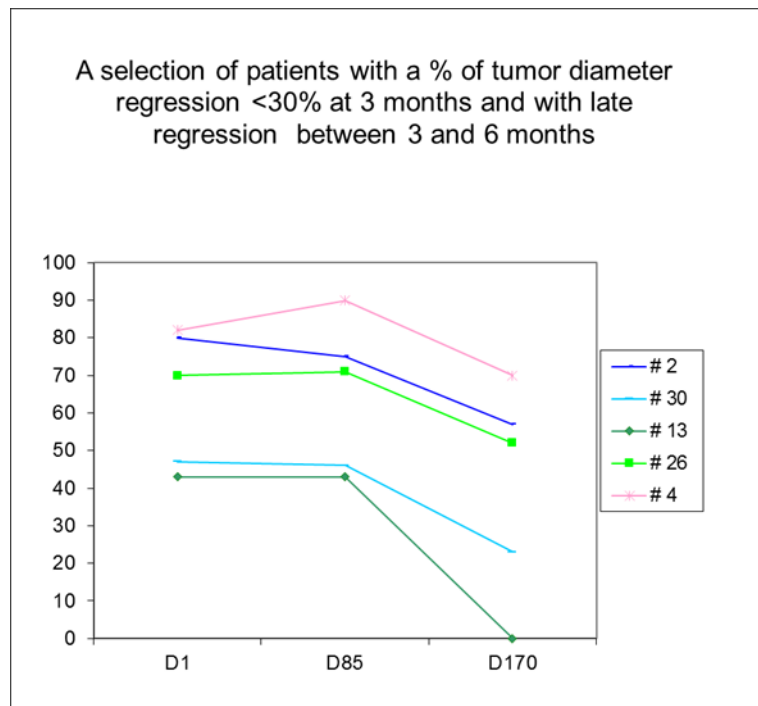


*J Clin Oncol. 2009 Oct 20;27(30):4966-72.

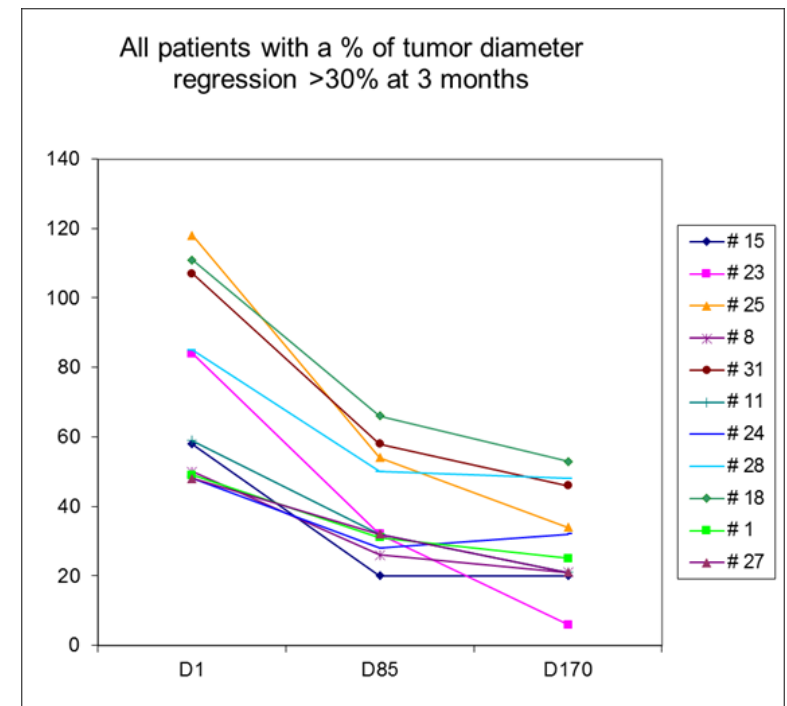
IMP321 late response

a characteristic of immunotherapy

Patients with tumor regression <30%



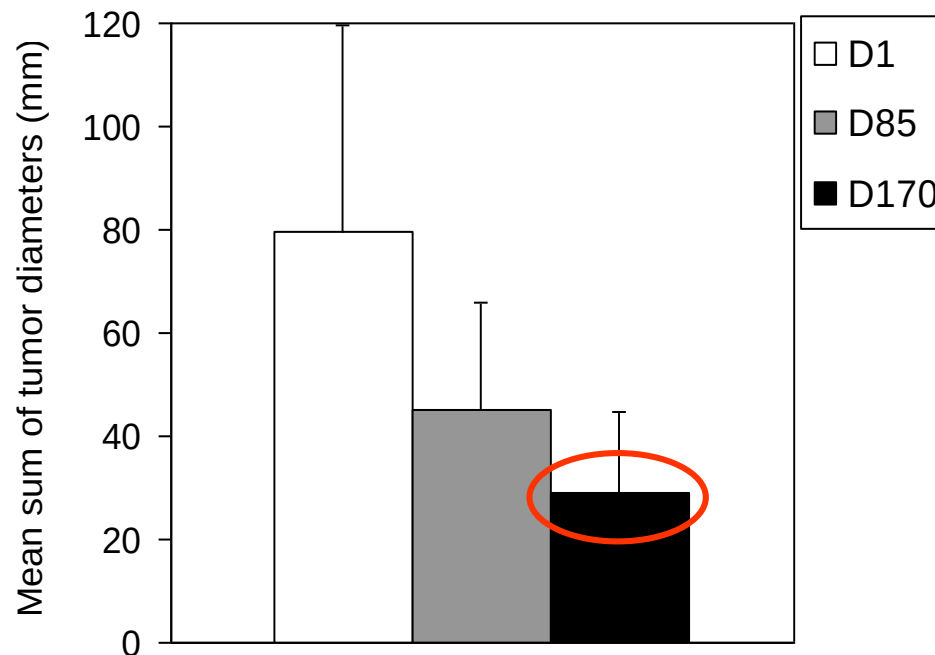
Patients with tumor regression >30%



→ Measureable tumor regression after 6 months (170 days)

The “Late Response Effect”

- Clear evidence of immune involvement
 - Further tumor regression between day 85 and day 170 which is not seen with chemo alone
 - Such late responses are characteristic of immunotherapy



Planned Phase IIb Chemoimmunotherapy in MBC: AIPAC trial

- AIPAC: Active Immunotherapy PAClitaxel
- Multicenter, randomized, double blind, placebo-controlled
- 15 + 196 patients: IMP321 + paclitaxel
vs. paclitaxel + placebo
- Primary objective: Efficacy (as Progression-Free Survival)
- Scientific advice from EMA received in July 2015
- Trial initiated in December 2015
- Clinical sites in Belgium and Netherlands have been approved by their Institutional Review Boards

Planned Phase I Study in Immuno-Oncology Combination

- TACTI-mel: Two ACTive Immunotherapeutics in melanoma
- Multicenter, open label, dose escalation
- 24 patients with unresectable or metastatic melanoma
- IMP321 + Anti-PD-1 combination study
- Primary objectives: Safety, tolerability
- Trial initiation expected in Q1 2016

Competitive Landscape: APC Activators

- CD40/ APC → In development with anti-PDL 1 antibody by F. Hoffmann-La Roche Ltd
- Toll-Like Receptors
 - Dynavax (DVAX) – TLR9 agonist (to be trialed with Keytruda)
 - Immune Design (IMDZ) – TLR4 agonist
 - Celgene (CELG) partnered with VentiRx (private) for TLR8 agonist

IMP731

for Autoimmune Diseases



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

- GlaxoSmithKline holds exclusive WW rights to IMP731
- Jan 2015: Prima announced a single-digit million US\$ milestone
- Up to £64m in total upfront and milestones + royalties
- GSK2831781 in Phase I trials with potential regulatory filing expected within 2021-2025 timeframe (See from slide 108 of [GSK investor presentation](#))
- Phase II expected to initiate in 2016

IMP701:

Antagonist mAb

IMP701 is an anti-LAG-3 antibody 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.

- Novartis holds exclusive WW rights
- Undisclosed milestone payments + royalties
- Aug 2015: Start of Phase I study by Novartis
- LAG-525 to be used in combination with PD-1 in solid tumors before end of this year

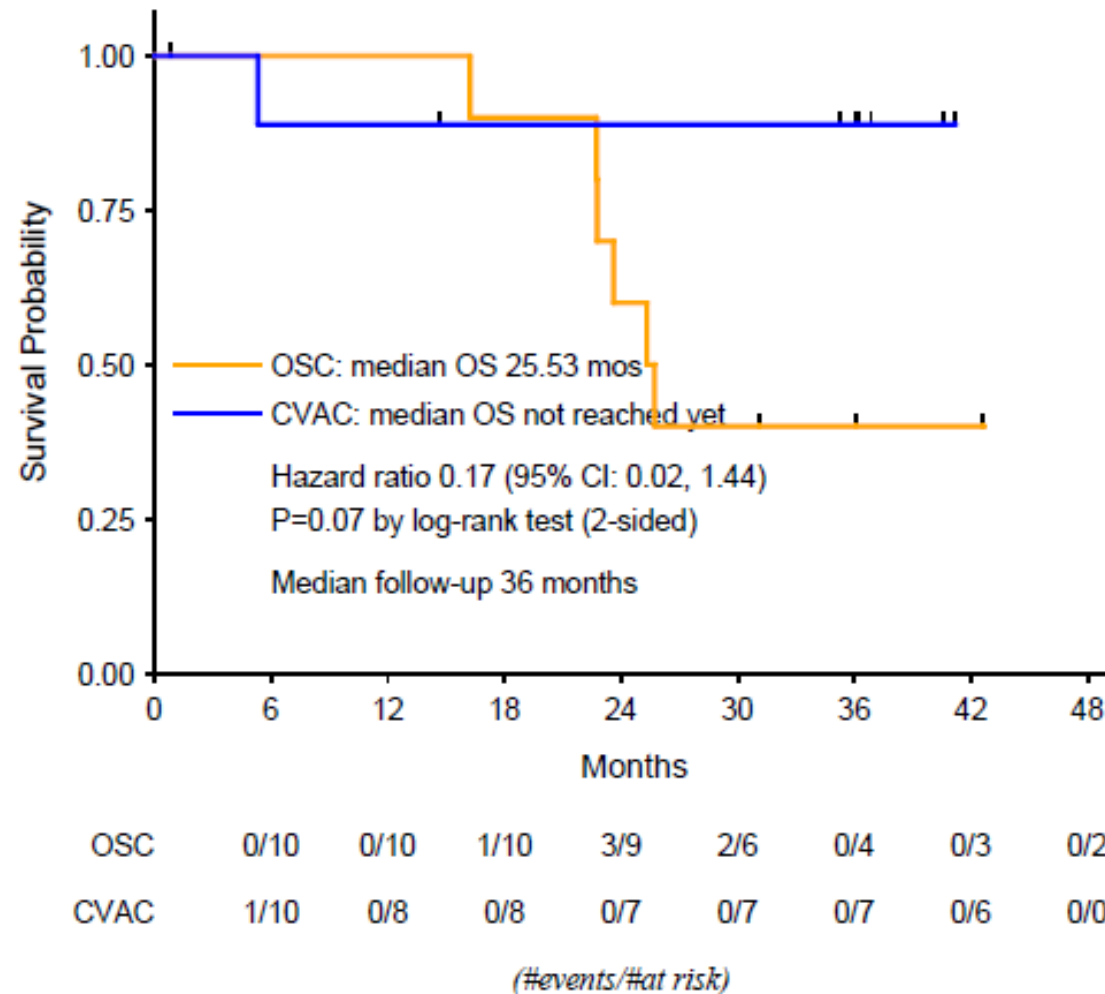
(See slide 10 of [Novartis IR presentation](#))

CVac: Vaccine for Epithelial Cancers

- CVac is *ex vivo* dendritic cell priming with a mannan + MUC-1 fusion protein
- MUC-1 is a cell surface protein overexpressed in epithelial tumors, most notably ovarian and pancreatic (>80%)
- Oxidized mannan as adjuvant is designed to be taken up by dendritic cells
- Very good safety profile
- Phase IIb CAN-003 complete, studied CVac in ovarian cancer
- Seeking partnership for future development

Ovarian Cancer

Second Remission Overall Survival Results



Clinical Development Goals

- Q4 2015: Phase IIb clinical study initiated with IMP321 (metastatic breast cancer) // first data in 2016
- Q1 2016: Initiation of anti-PD-1 combination Phase I study (melanoma) // first data in 2016
- Continued development of Phase I study with IMP731 (GSK)
- Continued development of Phase I study IMP701 (Novartis)

Corporate Snapshot

Ticker symbol	PBMD (NASDAQ - ADRs) PRR (Australian Securities Exchange)
Securities on issue*	2.06 billion ordinary shares 77 million listed options @ A\$0.20 17.7M issued ADRs (approx. June 2015)
Cash & Term Deposits	~A\$25.5 million (approx. Jan 2016)
Market Cap*	A\$98.8 million (US\$68.1 million)
Avg. Vol. (3 mo)*	3,969,550 ordinary shares on ASX 1,253,730 ADRs on NASDAQ
Grant Support:	Australian tax credit (43.5% of eligible R&D spent) French tax credit (30% of eligible R&D spent)

**Market references approximate as of 05th Jan 2016*

Analyst Coverage

Company

- Roth Capital Partners
- FBR & Co.
- H.C. Wainwright & Co.



Coverage Initiation

December 30, 2015
December 3, 2015
October 14, 2015

Price Target

US \$6.00
US \$6.00
US \$3.00

Rating

Buy
Outperform
Buy

ROTH Capital Partners

Joseph Pantiginis, Ph.D. (646) 358-1907
jpantiginis@roth.com

Sales (800) 933-6830, Trading (800) 933-6820

COMPANY NOTE | EQUITY RESEARCH | December 30, 2015



Healthcare

Healthcare: Biotechnology

Prima BioMed, Ltd. | PBMD - \$1.09 - NASDAQ | Buy

Initiation of Coverage

Stock Data				
52-Week Low - High	AUD0.42 - AUD0.48			
Shares Out. (mil)	68.61			
Mkt. Cap.(mil)	\$74.8			
3-Mo Avg. Vol.	959,016			
12-Mo Price Target	\$6.00			
Cash (mil)	AUD24.4			
Tot. Debt (mil)	AUD0.0			
EPS \$AUD				
Yr Jun.	2014	2015	2016	
1Q	-	Curr	Curr	
2Q	(0.01)A	(0.01)A	0.00E	
3Q	-	-	-	
4Q	(0.01)A	(0.02)A	0.00E	
YEAR	(0.01)A	(0.02)A	(0.01)E	
Prima announces financial results on a half-yearly basis. Results may not add to full year based on increases in share count and rounding.				
Revenue (\$AUD millions)				
Yr Jun.	2014	2015	2016	
1Q	-	-	-	

PBMD: Immuno-Threat From Down-Under; Initiating Coverage at Buy

We are initiating coverage of Prima with a Buy rating and \$6 price target. We believe Prima is in a leading position in the development of new checkpoint inhibition pathways, based on the discovery of LAG-3 by Prima's CMO/CSO. Initial clinical efficacy has been promising and has also delivered two global pharma partnerships. We recommend building positions in Prima.

Event

Prima has undergone a significant transformation, in our belief. The company was founded in 2001 in Australia. The primary focus for Prima was the development of the therapeutic cancer vaccine, CVac, primarily for ovarian



Prima Biomed Ltd. (PBMD)
Rating: Buy

Prima BioMed Ltd. (PBMD - \$1.08*)

Armadale, Victoria, Australia
December 3, 2015

STOCK DATA	
52-Week Range	\$6.48 - \$0.42
3 Month ADTV	823,002
Market Cap (mil)	\$74.1
Shrs Outstanding (mil)	68.6
Beta	0.79
Flo at (%)	94.6
Fiscal Year-End	June

EARNINGS DATA	
2015A	2016E
Q1.12	(\$0.15)
Q2.12	(\$0.01)
Q3.12	(\$0.14)
Q4.12	(\$0.14)
Year	(\$0.14)
* is adjusted for 10 June 30 and 10 June 30 and 10 June 30	

Initiating Coverage
Healthcare
October 14, 2015

Swayampakula Ramakanth, Ph.D.
212-358-0544
sramakanth@hcvresearch.com
Sean Lee
212-358-0521
slee@hcvresearch.com

Leading the LAG-3 Race; Initiating with a Buy and \$3.00 PT

Stock Data	10/13/2015
Price	\$1.22
Exchange	NASDAQ
Price Target	\$3.00
52-Week High	\$6.48
52-Week Low	\$0.42
Enterprise Value (MM)	\$76
Market Cap (MM)	\$81
Public Market Float (MM)	62.1
Shares Outstanding (MM)	66.2
3 Month Avg Volume	1,433,870
Short Interest (MM)	0.91

Price: All stock information are reported in USD and all other financials are reported in AUD.

Balance Sheet Metrics	
Cash (MM)	\$32.31
Total Debt (MM)	\$1.51
Total Cash/Share	\$0.51
Book Value/Share	\$0.41

Cash (MM) Pro forma

2015 (A) Diluted	2015A	2016E	2017E
Full Year - Jun	0.00	0.00	0.00
1st Half	0.00	0.00	0.00
2nd Half	0.00	0.00	0.00

Prima BioMed is a leader in LAG-3 therapies. Immunotherapies, such as checkpoint modulators (CPMs) that regulate T cell function, are revolutionizing cancer treatment. Prima BioMed, a biotechnology company based in Sydney, Australia, is developing novel CPMs targeting Lymphocyte-Activation Gene 3 (LAG-3), a key modulator of the immune system. While several companies have LAG-3 programs under development, Prima is currently one of only two companies with LAG-3-targeting therapies in clinical studies. Prima has three product candidates in the clinic: 1) IMP-321, an adjuvant therapy for metastatic breast cancer (mBC) and metastatic melanoma (A\$3.1B addressable market); 2) IMP-701 for the treatment of solid tumors (A\$13.3B addressable market); and 3) IMP-731 for the treatment of psoriasis (A\$2.2B addressable market). IMP-321 has successfully completed a Phase 2a study in HER2-negative mBC and management plans to initiate a placebo-controlled Phase 2b study in mBC before the end of 2015. Development partners Novartis (NVS, not rated) and GlaxoSmithKline (GSK, not rated) are conducting Phase 1 studies on IMP-701 and IMP-731, respectively. Prima's drug development program is directed by Chief Medical Officer Dr. Frédéric Tsielbel, who first discovered LAG-3 in 1990, and who has been developing LAG-3 therapies since the early 2000s. We believe that if the current clinical studies are successful, Prima could be the first company to bring this novel class of CPMs to the market. We expect Prima's lead product, IMP-321, to be approved in the EU in 2019, and we project

Important disclosures can be found on pages 15 - 19 of this report.

Coverage Initiated

Outperform
Price Target: \$6.00

Targeting Next-Generation Checkpoint Pathways- Initiating at Outperform

Summary and Recommendation

We are initiating coverage of Prima BioMed Ltd. (PBMD) with an Outperform rating and a price target of \$6 per share. Whereas PBMD had one active clinical program in 2014, the company now has three novel product candidates in active clinical development, including IMP321, IMP731, and GSK 2831781, with the latter two rapidly being advanced by two partners committed to their full evaluation. We believe the current valuation of Prima BioMed is disconnected from our estimation of the significant value PBMD has created in advancing its clinical-stage product pipeline.

Key Points

- We look for AIPAC to be a key value driver. We believe initiation of AIPAC, a planned Phase IIb combination study with paclitaxel and IMP321, will be a significant catalyst for the stock. Based on a comparison of previous results with IMP321 in metastatic breast cancer (mBC) versus historical control data from the ECOG 2100 study in mBC, we believe AIPAC will be positive. Importantly, since we view AIPAC as having registration qualities, positive results have the potential to position IMP321 for approval with only one pivotal study.
- We look for IMP321 to generate partnership interest. AIPAC's design has registration quality, as it is being conducted under the auspices of scientific advice from the European Medicines Agency (EMA). We acknowledge that the agency's advice is not legally binding; however, Prima has communication from the EMA that suggests upon achievement of certain clinical endpoints, positive AIPAC results could lead to full marketing authorization for IMP321 in the EU. We do not include this scenario in our models; however, we believe Prima's





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Thank you!