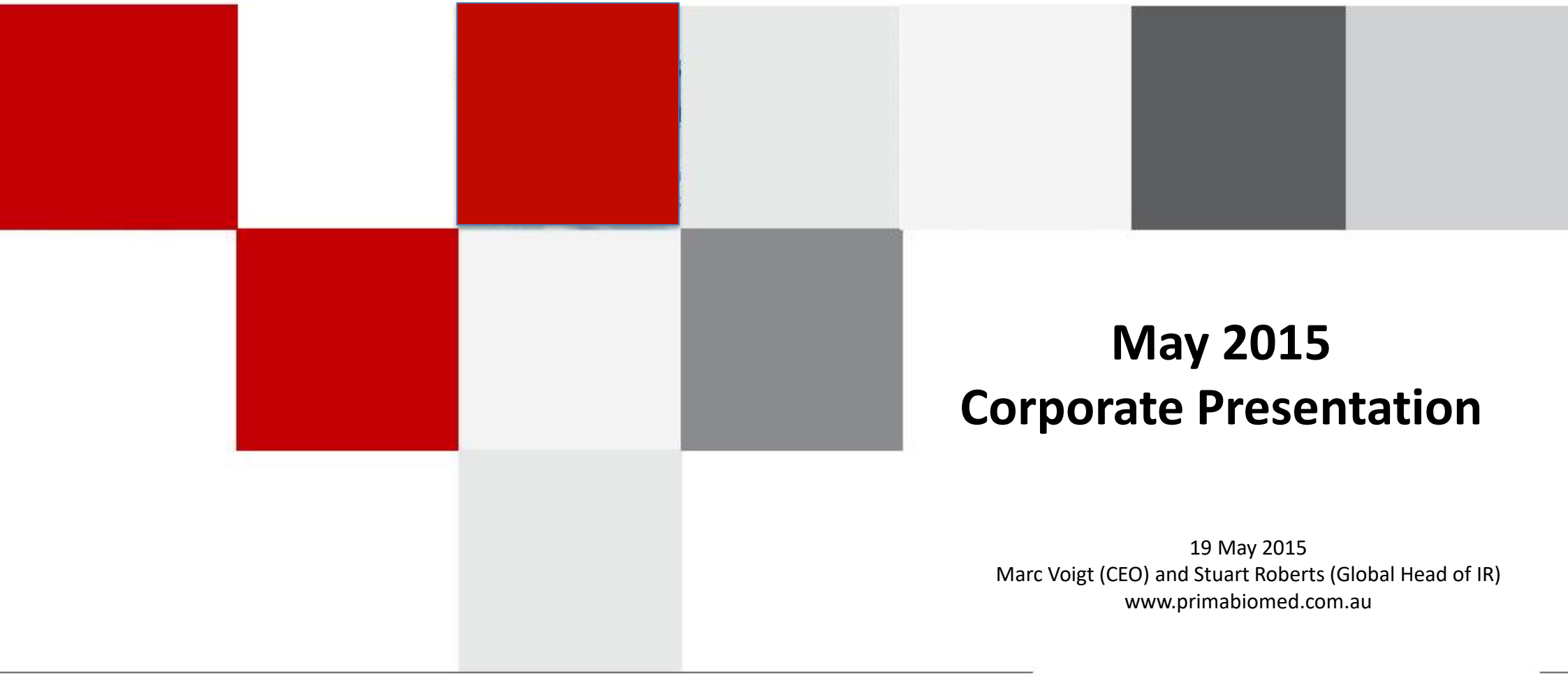




PRIMA BIOMED

Nasdaq: PBMD, ASX:PRR



May 2015
Corporate Presentation

19 May 2015
Marc Voigt (CEO) and Stuart Roberts (Global Head of IR)
www.primabiomed.com.au

Immuno-Oncology: A cancer treatment Revolution

Our LAG-3 programs: An important part of the Revolution

Beneficiaries: Patients...and our shareholders

Notice: Forward Looking Statements

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Prima BioMed – Who are we?

- **A cancer drug development company** focused on **immuno-oncology**, a revolutionary new field of cancer treatment
- Our original product, CVac™, is a cancer vaccine with favourable clinical data in second-remission ovarian cancer
- After acquiring Paris-based Immutep (completed Dec. 2014), and attracting A\$15m in new capital (announced May 2015) we are now focused on the immune checkpoint receptor **LAG-3**
- Multiple partners including **GSK** and **Novartis**

Prima BioMed – Our value proposition

- Our target, LAG-3: A proven component of immune control
- Our intellectual property and expertise makes us the world leader in LAG-3
- IMP321, our soluble LAG-3 product, doubled the response rate over paclitaxel in a Phase IIa trial in metastatic breast cancer
- Blockbusters are set to be created in the current Immuno-Oncology Revolution, where we are now a player

In this presentation ...

The Immuno-Oncology Revolution – Slide 7

LAG-3: An immune checkpoint target of increasing importance – Slide 14

Encouraging CVac Data– Slide 36

Why invest in Prima? – Slide 39

May 2015 capital raising – Slide 44

THE IMMUNO-ONCOLOGY REVOLUTION ...

*You can resist an invading army; you cannot resist an
idea whose time has come*

– Victor Hugo (1802-1885)



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Immutep

- Dec. 2014, Prima acquired Immutep, an immuno-oncology pioneer, for US\$25m (US\$18m cash, with \$10.8m upfront, plus \$3m shares and \$4m warrants)
- 'Very attractive price' according to KPMG valuation
- Professor Triebel, founder of Immutep, is now PRR's Chief Scientific and Medical Officer
- Immutep came with 11 patent families, exclusively licensed or owned, and fully-equipped research lab

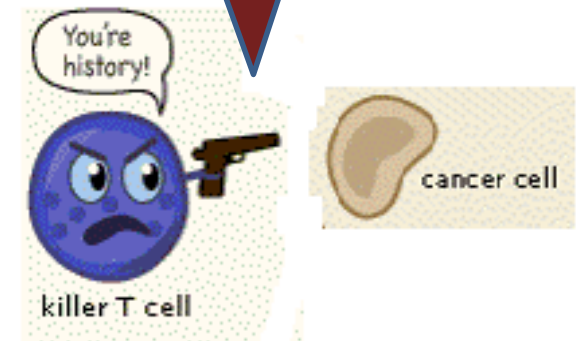


Professor Frédéric Triebel, based in Paris, is the world's leading authority on LAG-3

Immuno-Oncology 101

- Usually our immune system keeps us cancer-free by eliminating abnormal cells
- But some cancers can turn off our immune response. Surgery, radiotherapy and most chemotherapy can't remedy this ...
- ... However, Prima and others have figured ways to restore immune response: **That's the Immuno-Oncology Revolution**

This is the most powerful cancer drug known to man



Immuno-Oncology 101

- One of the ways immune response can be restored is via 'checkpoints' ie inhibitory pathways hardwired into the immune system
- Oncology is now beginning to target these checkpoints
- CTLA-4 and PD-1 are the first two checkpoints to be targeted with approved immuno-oncology drugs
- LAG-3, targeted by Prima, is a checkpoint



The Immuno-Oncology Revolution is here

- Yervoy® (ipilimumab) from BMS, targeting CTLA-4, FDA approved in March 2011 and now a blockbuster (US\$1.3bn in 2014 sales)
- Keytruda® (pembrolizumab), from Merck & Co., targeting PD-1, FDA approved in September 2014
- Opdivo® (nivolumab) from BMS, another PD-1 inhibitor, FDA approved December 2014
- Very good data (with the right patients) means the race is on for other immuno-oncology drugs

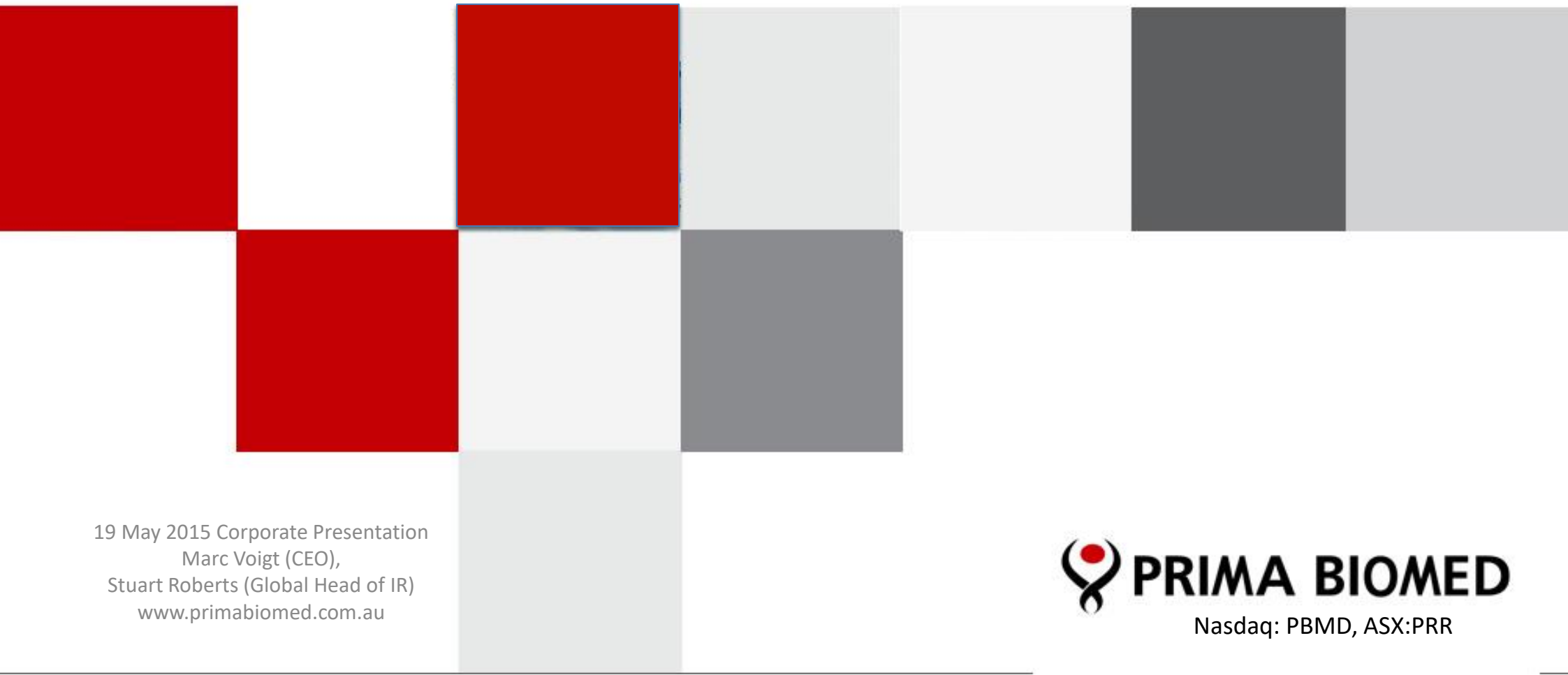
Immuno-Oncology will create blockbusters

- Oncology is world's largest drug class - US\$74bn in 2014, up 10% (source: IMS)
- Immuno-Oncology – potentially US\$35bn market by 2025 (Citi Research, May 2013)
- Success of targeted therapies like Rituxan® (US\$6.6bn in 2014 sales), Avastin® (\$6.1bn) and Herceptin® (\$5.6bn) point to positive reception for the immunotherapies

There are two basic trends to the Immuno-Oncology Boom

- **Trend 1 – Development of new immuno-oncology targets** (eg Various PD-L1 drugs in development from Roche, AstraZeneca and Merck Serono)
- **Trend 2 – Combinations of existing immuno-oncology drugs** (eg Lilly trialling Alimta® and Cyramza® as well as EGFR-targeting necitumimab with Keytruda®)
- **We benefit from both trends**

LAG-3: IMMUNE CHECKPOINT TARGET OF INCREASING IMPORTANCE



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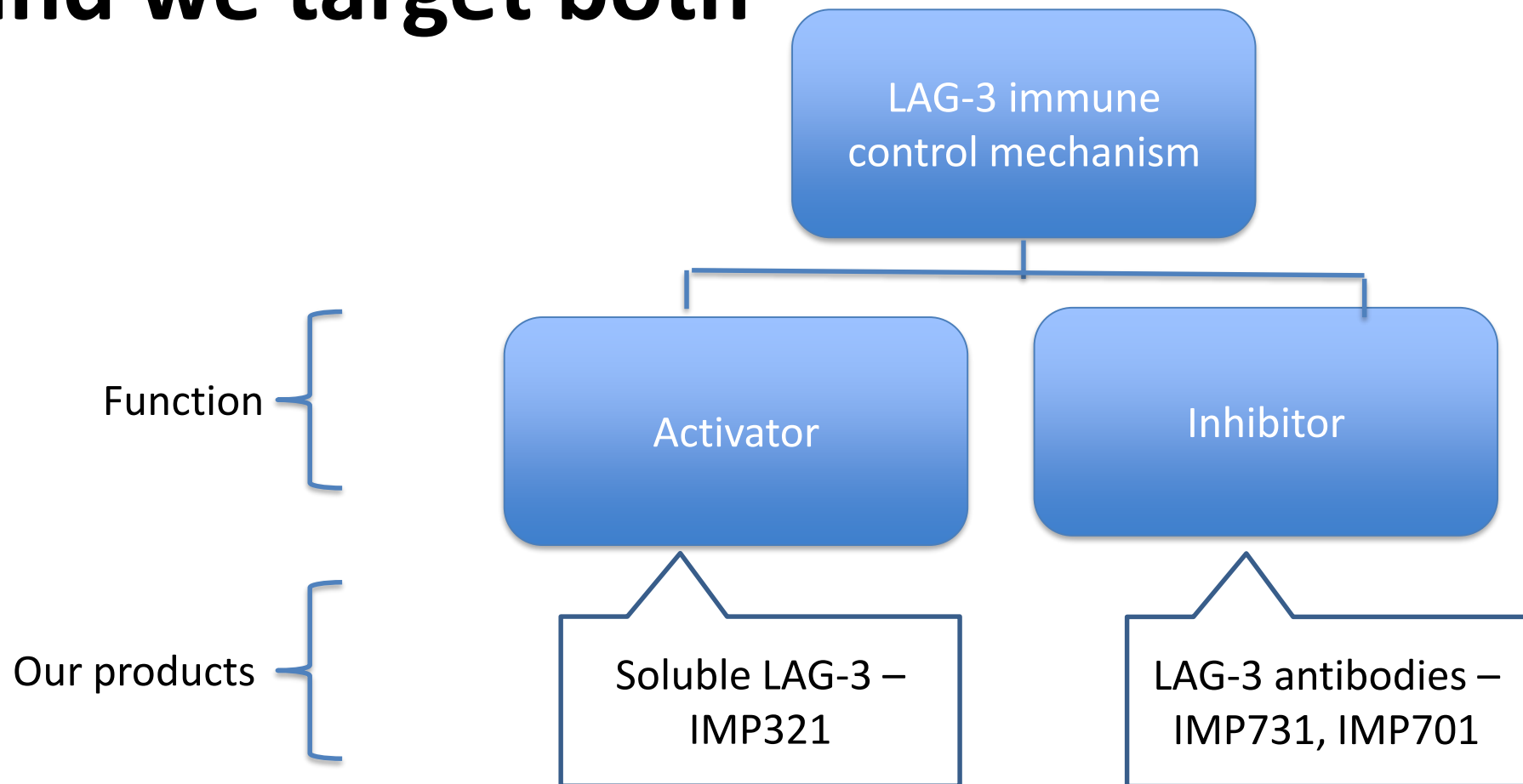
What is LAG-3?

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- **LAG-3 (CD223) - “Lymphocyte Activation Gene 3” - expressed on activated T cells, NK cells, B cells and dendritic cells**
- **LAG-3 is a ligand for MHC class II molecules**
- **On T cells, LAG-3 is an inhibitory receptor that down-modulates (ie turns down) their proliferation and activation. This happens when LAG-3/MHC Class II co-caps (ie crosslinks) with CD3/TCR complex**
- **Since LAG-3 is widely expressed on T-cells infiltrating human tumours, it is a prime target for an immune checkpoint blocker alongside CTLA-4 and PD-1, with which it is functionally similar**
- **On dendritic cells LAG-3 is an activator, causing increased antigen presentation when it binds to MHC Class II**

LAG-3: Unlike other checkpoints, both an accelerator and a brake - and we target both

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We are the world leader in LAG-3...

- Professor Frédéric Triebel discovered LAG-3 in 1990 (See J Exp Med. 1990 May 1;171(5):1393-405.)
- Triebel et. al., as part of a collaboration between Institut Gustave Roussy and Merck Serono, established over the decade to 2001 LAG-3's mechanism of action in T cells and dendritic cells.
- Immutep was formed in Paris in 2001 to develop LAG-3 as a cancer and autoimmune disease target
- We acquired Immutep in late 2014 for US\$25m (US\$18m cash, with \$10.8m upfront plus \$3m shares and \$4m warrants)
- Professor Triebel is now our Chief Scientific and Medical Officer and continues to lead his lab

LAG-3 has lagged PD-1 and CTLA-4, but our time has now come

- Immutep was a small, venture-backed company with limited resources, so initial Phase II data wasn't generated until 2010 and Immutep wasn't able to fund further clinical trials after that
- The Immuno-Oncology Revolution only started with Yervoy in 2011, but since 2011 global search for other Immuno-Oncology targets has heightened interest in LAG-3 and our products
- After >15 years work by Triebel et. al., we are now in box seat
- **We see the two basic trends to the Immuno-Oncology Boom – new targets and new combinations – as benefiting LAG-3 among other targets**

LAG-3 is promising as a drug target

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- **LAG-3 isn't the only new immuno-oncology target** (think TIM3, OX40 and GITR), **BUT...**
- **LAG-3 is expressed on multiple tumour-infiltrating lymphocytes** (Eur. J. Cancer. 2001;37:1709–1718)
- **LAG-3 works by direct effects on CD8+ T cells** (J Clin Invest. 2007 Nov;117(11):3383-9.)
- **Dual targeting of LAG-3 and PD-1 is synergistic *in vitro* and *in vivo*** (Proc Natl Acad Sci U S A. 2010 Apr 27;107(17):7875-80; Cancer Res. 2012 Feb 15;72(4):917-27)
- **LAG-3 seems to be vital for Treg functioning** (PLoS One. 2014 Nov 5;9(11):e109080.)

Pharma is also looking at LAG-3

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- Bristol-Myers Squibb (BMS) is in Phase I with anti-LAG-3 monoclonal antibody called BMS-986016
- BMS is developing LAG-3 antibodies in combination with PD-1 inhibitors (see NCT01968109 at clinicaltrials.gov)
- This is distinct from Prima's soluble LAG-3 (ie our product is the accelerator, BMS's drug lifts the brake)
- Novartis licensed LAG-3 antibodies from us and are pre-clinical
- Prima expects other Big Pharma players to be looking at LAG-3 – it's a validated target

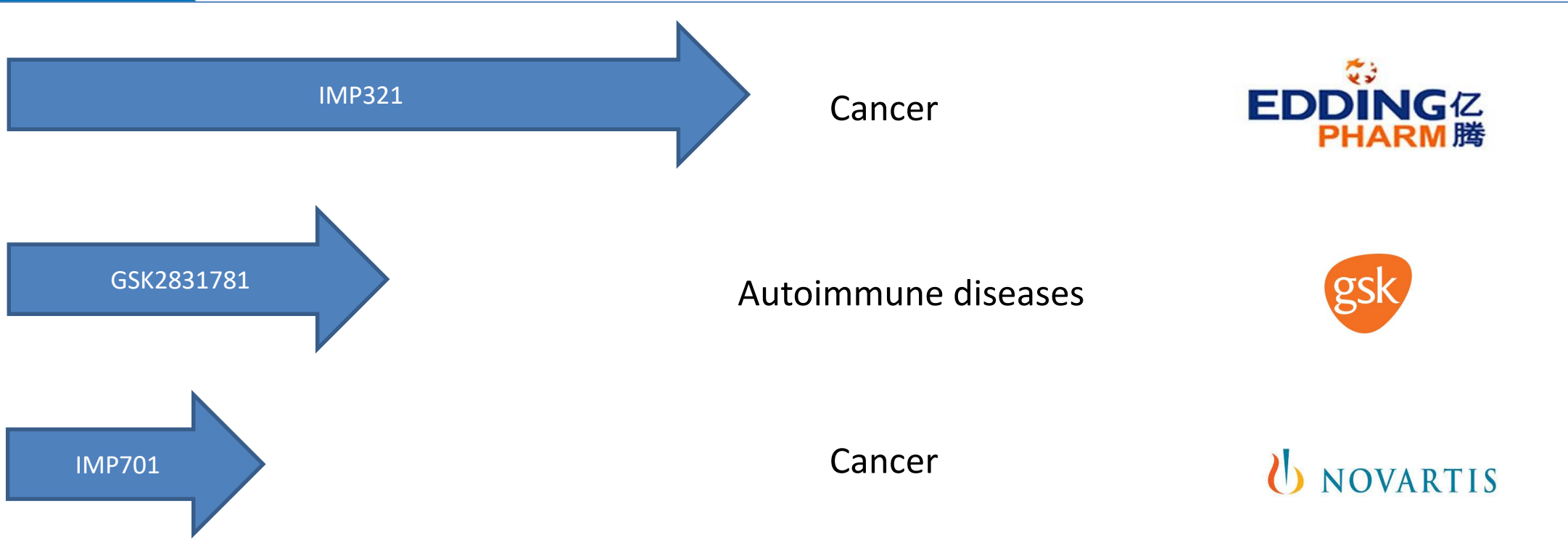
We own three main LAG-3 technologies ...

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- IMP321 – soluble LAG-3 protein for cancer (ie “the accelerator / activator”)
- IMP701 – LAG-3 antagonist antibody for cancer (ie “the brake / inhibitor”, licensed to Novartis)
- IMP731 – LAG-3 depleting antibody for autoimmune diseases (licensed to GSK)

Two of our LAG-3 programs have reached the clinic

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All of our LAG-3 programs have significant partners

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IMP321



One of the fastest-growing specialty pharmas in China

GSK2831781



World's 6th largest pharma*

IMP701



World's largest pharma*

* Ranked by Rx sales for 2013 (source: PharmaExec50 list, June 2014)

Our basic strategy for LAG-3

- Retain downstream economics in markets outside China for soluble LAG-3 (IMP321), with its unique mechanism of action in cancer
- Benefit from antibodies to LAG-3 through commercial partnerships

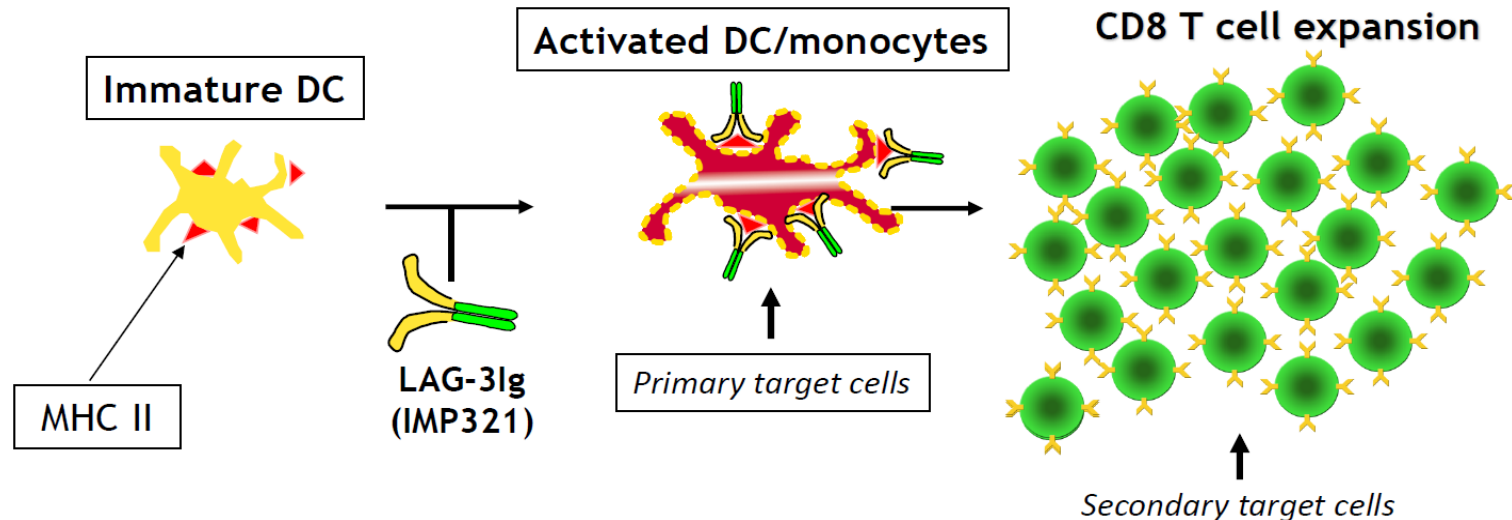
IMP321 is soluble LAG-3

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- A soluble dimeric recombinant form of LAG-3 (ie fusion protein with immunoglobulin), designed to activate Antigen Presenting Cells. Protein is highly stable and has high affinity for its target
- Induces activation of dendritic cell and monocytes, from which T cell expansion follows (J Immunol. 2008 Mar 15;180(6):3782-8)
- Phase IIa data in metastatic breast cancer suggests that IMP321 works as a chemoimmunotherapeutic, where chemotherapy creates tumour debris, and IMP321 increases activation of APCs as they take up that debris
- We also believe that IMP321 at low doses can be used as a T cell adjuvant for cancer vaccines (Clin Cancer Res. 2008 Jun 1;14(11):3545-54)

How IMP321 works

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- DC/monocyte activation induced, thereafter T cell expansion
- IMP321 is highly efficacious in multiple animal models of cancer and infectious disease
- IMP321 is well tolerated, non-immunogenic and efficacious in humans.

APC-based Mechanism of Action - IMP321 gives us competitive advantage

- Antibodies to LAG-3 up regulate T-cell proliferation and activation, like antibodies to PD-1 and CTLA-4, however...
- Soluble LAG-3 can increase activation of APCs as they take up tumor debris after chemotherapy – the existing checkpoint molecules can't do this
- This suggests that soluble LAG-3 therapy has **less risk of immune-related adverse events**

IMP321 showed promise at Phase Ib in mRCC

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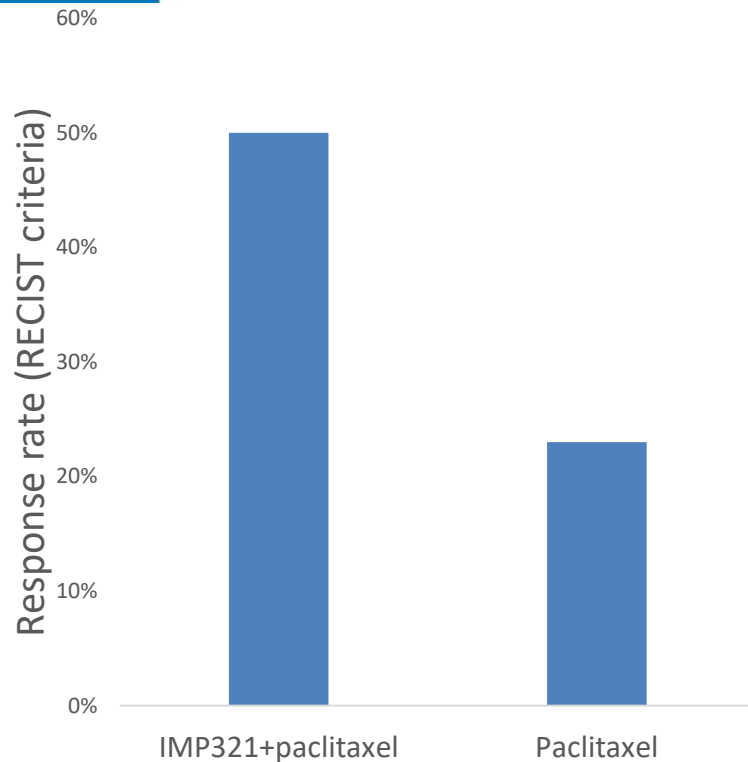
(Clin Cancer Res. 2009 Oct 1;15(19):6225-31)

- N = 21, open label study in metastatic renal cell carcinoma with IMP321 as a monotherapy
- Sustained CD8 T-cell activation, plus greater % effector-memory CD8 T cells in all patients at doses above 6 mg / injection
- 7 of 8 evaluable patients dosed 6 mg had stable disease at 3 months compared with only 3 of 11 at lower dose ($p = 0.015$).

IMP321 doubled response rate in metastatic breast cancer Phase IIa

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(Journal of Translational Medicine 2010. 8:71-82).



- N = 30, open label study in HER-2 negative metastatic breast cancer patients

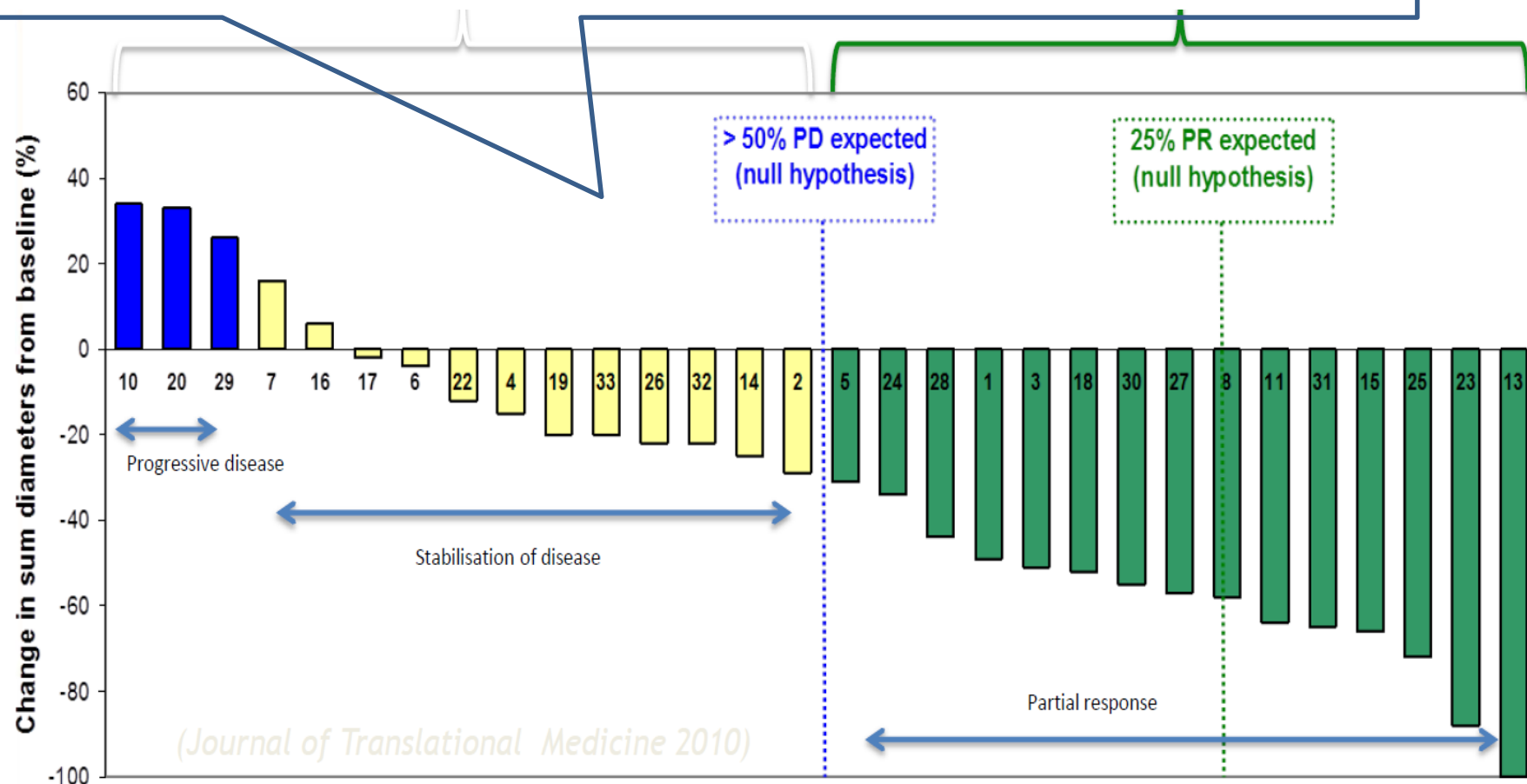
- 50% response rate, with stable disease in another 40%

- Expected response rate ~25% (cf. ECOG 2100 study for paclitaxel weekly, 3 weeks out of 4, n = 254, see J Clin Oncol. 2009 Oct 20; 27(30): 4966–4972)

- Result over historic controls has high statistical significance (p=0.005)

Significant clinical benefit in metastatic breast cancer

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



Two more IMP321 studies planned

- Randomised, double-blind placebo-controlled Phase IIb study in first-line metastatic breast cancer, initiates 2H15. This trial, comparing IMP321+paclitaxel vs paclitaxel alone in Herceptin-ineligible patients, will mainly take place in EU
- Pilot Phase I study in an immuno-oncology combination is planned to start in Q42015.



IMP731 for autoimmune diseases

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- Dec. 2010: **GlaxoSmithKline** licensed from Immutept rights to develop LAG-3 depleting antibodies for autoimmune disease - £64m total deal package (~A\$118m)
- GSK2831781 is currently in first time in human clinical trials (see NCT02195349 at clinicaltrials.gov).

IMP731 for autoimmune diseases

- In January 2015, Prima announced a single-digit million dollar milestone for GSK's Phase I study commencement
- A tuberculin-induced DTH model in primates (a surrogate model of psoriasis inflammation), showed that a single injection of a depleting LAG-3 mAb prevented Th1-driven skin inflammation (Clin Exp Immunol. 2011 May; 164(2): 265–274)
- GSK's investigational product aims to kill the few activated LAG-3+ T cells that are auto-reactive in autoimmune disease leading to long term disease control

IMP701 is partnered with Novartis

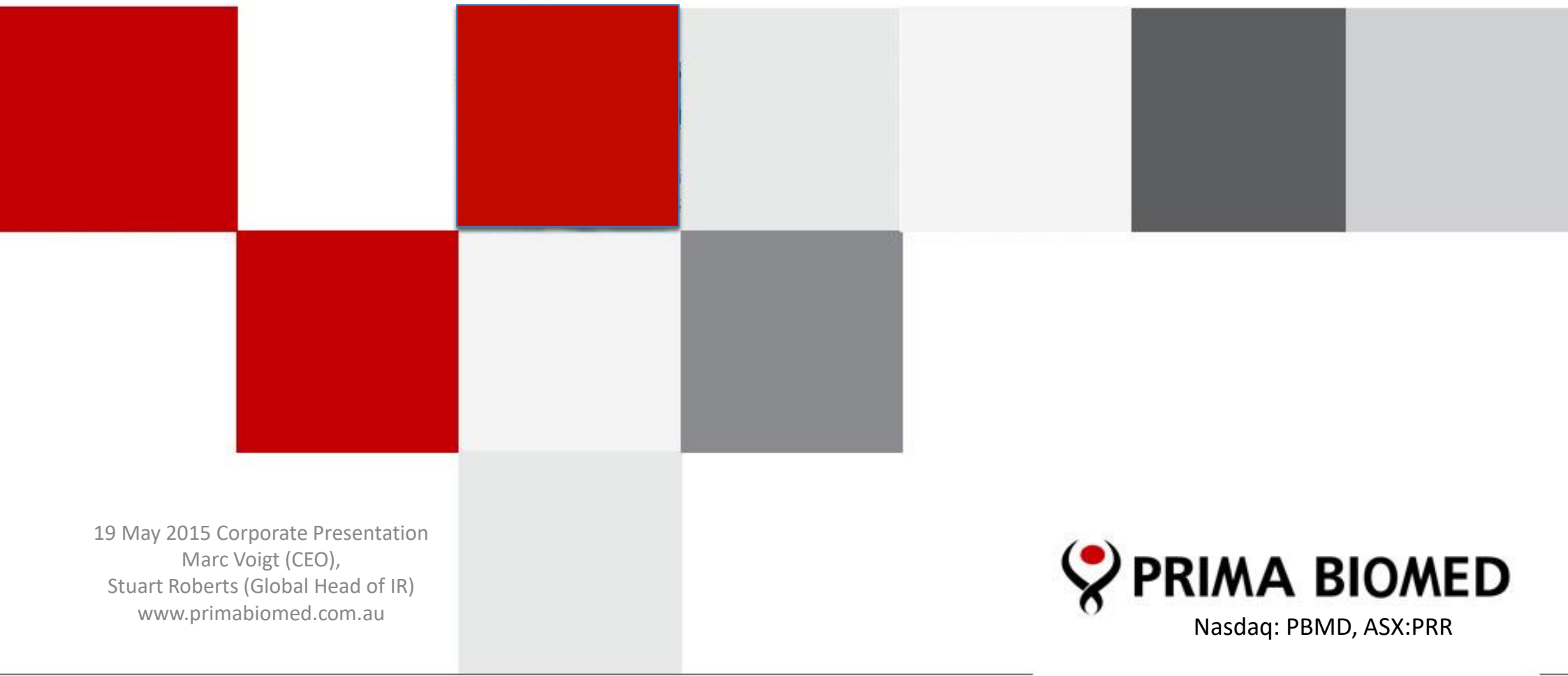
- IMP701 is an anti-LAG-3 antibody which blocks LAG-3-mediated immune down-regulation.
- 2012: US biotech CoStim licensed LAG-3 antagonists for cancer from Immutep
- Feb. 2014: Novartis bought CoStim for undisclosed sum

Intellectual property

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- Our LAG-3 intellectual property is covered by 11 patent families exclusively owned or licensed by Immutep (See, for example, WO/2009/044273 and WO/2008/132601)
- Claims cover LAG-3 protein and extracellular domains as well as antibodies directed to LAG-3
- Specifically the gene, proteins and polypeptides required to derive Immutep's entire product range are protected
- Current patents covering IMP321 have an estimated 2028 expiry

ENCOURAGING CVAC DATA



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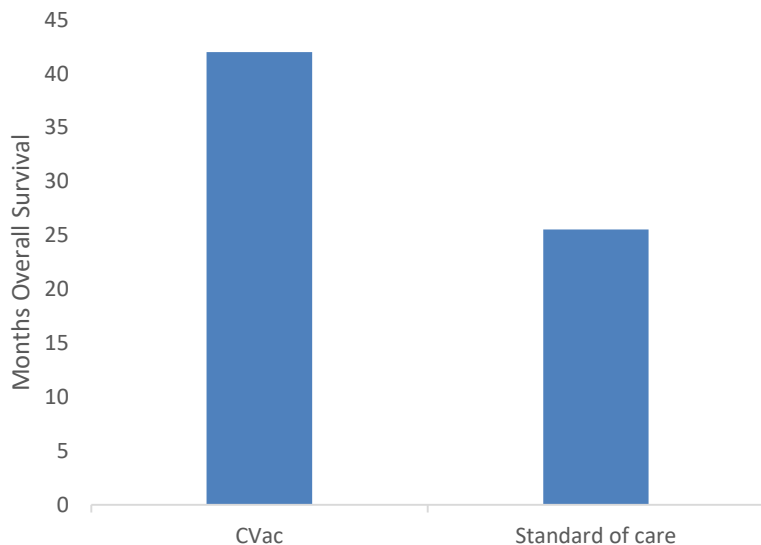
CVac: Cancer vaccine

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- CVac is *ex vivo* dendritic cell priming with a mannan+MUC1 fusion protein
- MUC1 is cell surface protein overexpressed in epithelial tumours, most notably ovarian and pancreatic (>80%)
- Oxidised mannan as adjuvant is designed to be taken up by dendritic cells
- Very good safety profile
- Phase II CAN-003 study in ovarian cancer for second-remission patients worked well

Our basic CVac thesis seems correct 38

CVac Hazard Ratio =
0.17 for second
remission ovarian
cancer



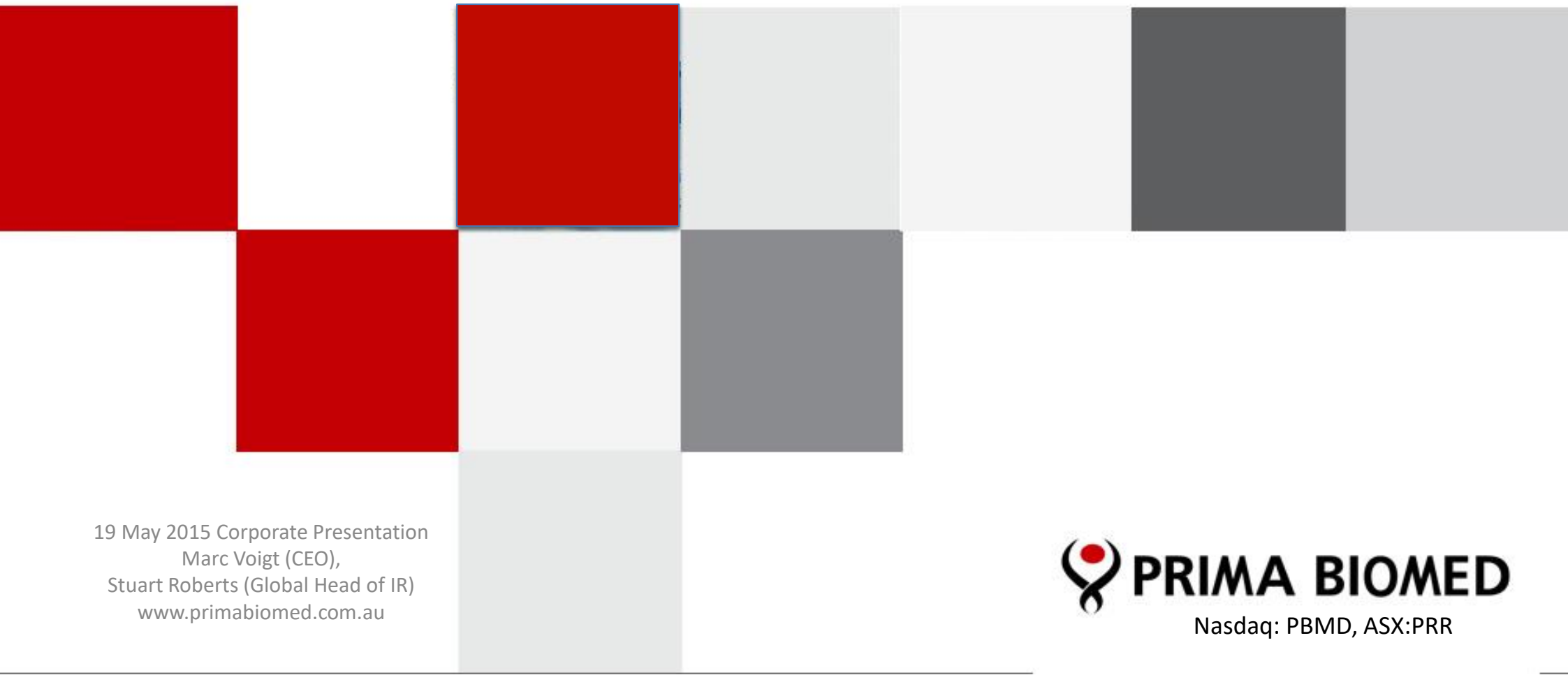
- **Thesis:** Mannan+MUC1* will generate tumour-destroying immune response in ovarian cancer

Evidence Progression-Free Survival: Nov. 2014, 8 month advantage for second remission patients (CAN-003 study, n=20, treatment 12.9 months, control 4.9 months, p=0.04)

- **Evidence Overall Survival:** May 2015, at least 16 month advantage (CAN-003 second remission treatment median not reached at 42 months, control median 25.5 months, p=0.07)

* Mannan is a sugar taken up by Antigen Presenting Cells, the orchestrators of the immune system. MUC1 is a protein overexpressed on many cancer cells.

WHY INVEST IN PRIMA?



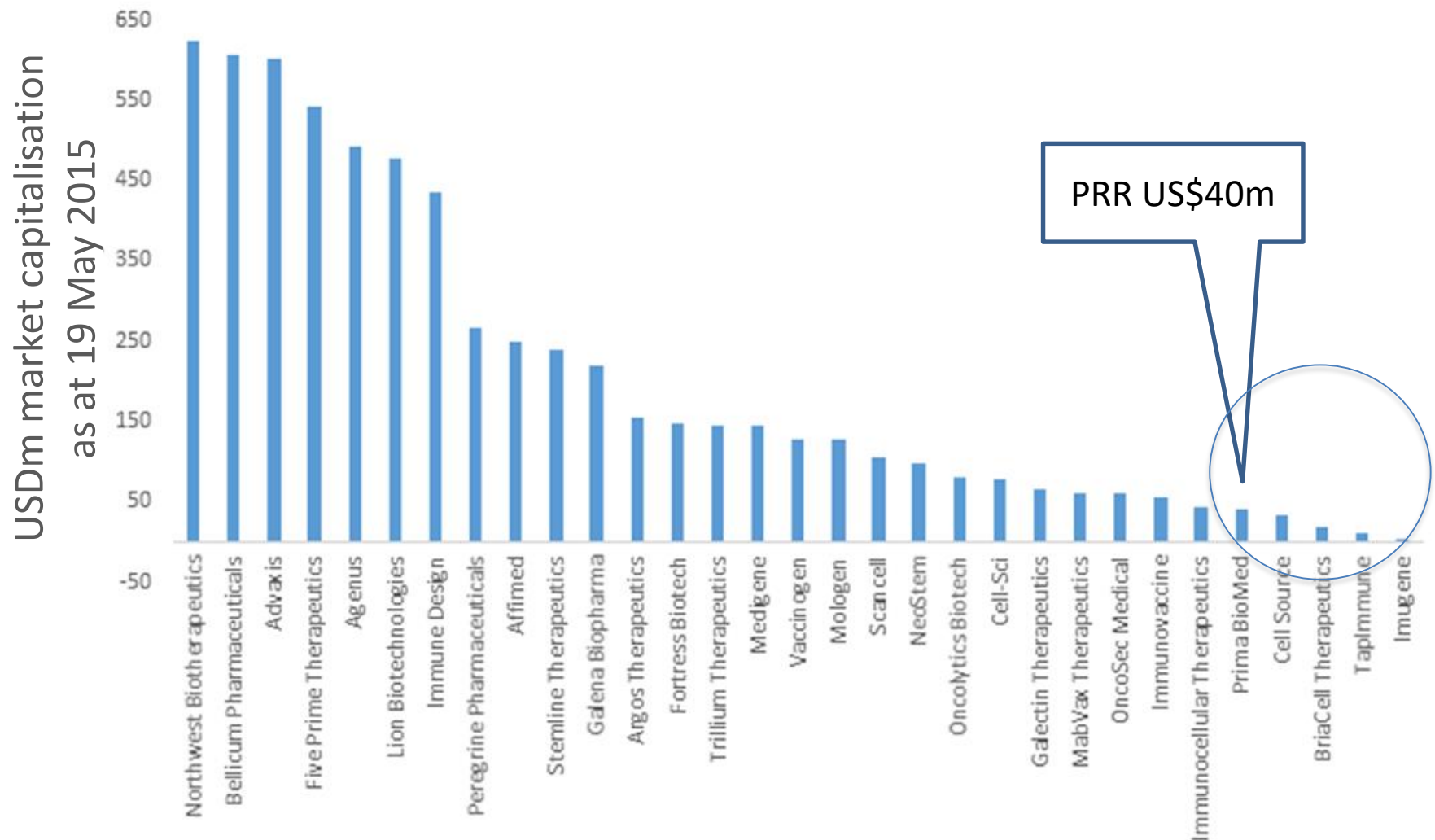
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Six reasons to invest

- Depth: With Immutep, Prima has changed from single-asset to multi-product company
- Important market space. Immuno-oncology is the most important area of cancer R&D today.
- Superior technology: With LAG-3, we are in a strong position within the emerging immuno-oncology drug class
- Partnerships: GSK, Novartis and Eddingpharm collaborations have potential to deliver mid-term milestones
- Leadership: Strong board and management plus impressive clinical and scientific advisors
- Funding: Prima's May 2015 capital raising funds commencement of two important clinical studies

Prima is one of the least expensive of our peer group

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Strong leadership

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- **Directors:** Lucy Turnbull AO (Chairman), Albert Wong, Marc Voigt, Dr Russell Howard (ex Maxygen), Pete Meyers (ex Deutsche Bank, now TetraLogic CFO)

- **Senior management:** Marc Voigt (CEO), Deanne Miller (General Counsel), Professor Frédéric Triebel (CSO), Sharron Gargosky (CTO)



Lucy Turnbull AO, Chairman



Marc Voigt, CEO

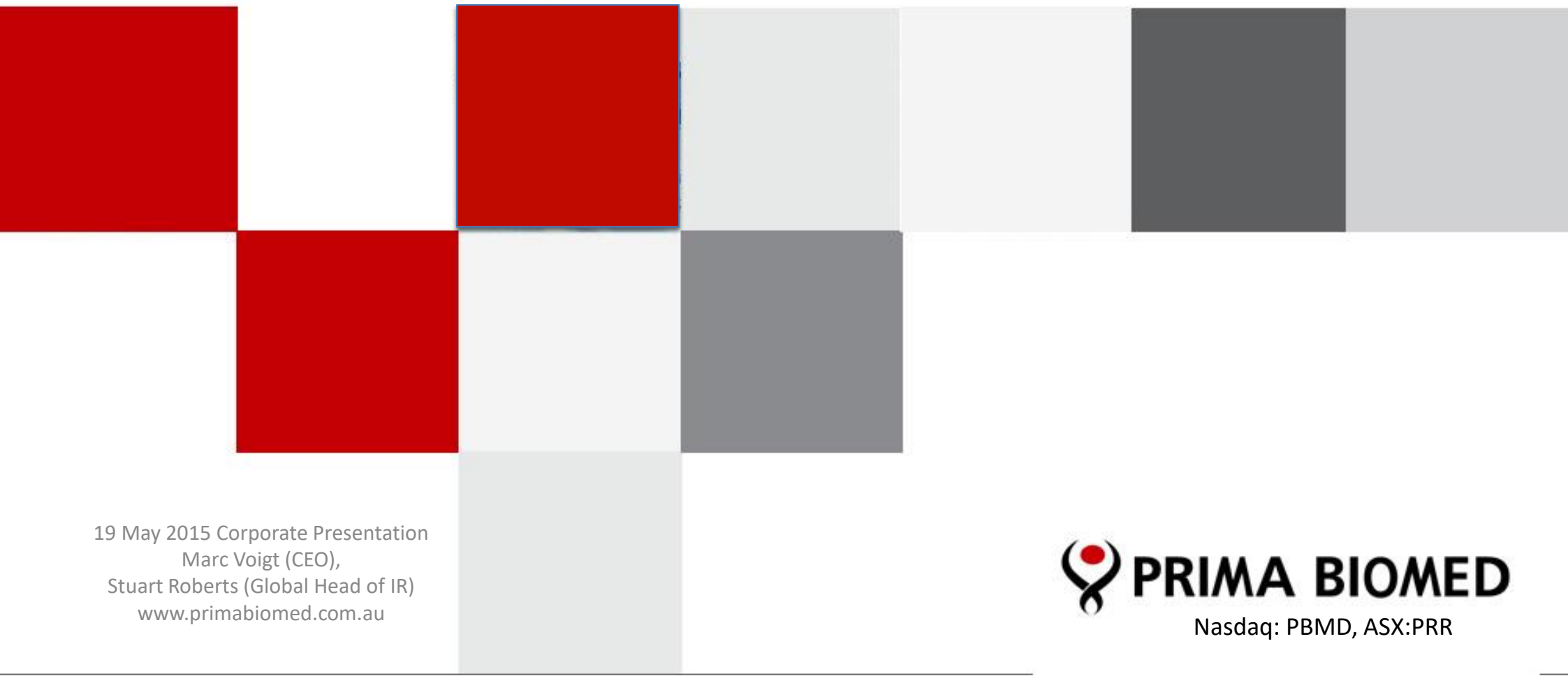


*Russell Howard,
Director*

Good newsflow in 2015 ...

- GSK milestone reached ✓
- MTA with NEC and Yamaguchi ✓
- Final Overall Survival data for CAN-003 study ✓
- Start of Phase IIb with IMP321 (2H2015)
- Start of immuno-combination study with IMP321 (Q4 2015)
- Start of Phase I for IMP701 (by Novartis)
- Continued expansion of intellectual property
- R&D for new products
- Development of CVac manufacturing and logistics assets
- Ongoing: Business development

MAY 2015 CAPITAL RAISING



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Prima plans to raise A\$20m

- **Ridgeback Capital Investments**, a US-based specialist healthcare investor, is investing A\$15m in Prima
- Ridgeback will take an immediate placement of ~72 million Prima shares at 1.73 cents per share, worth approx. A\$1.25m
- Ridgeback will invest the remainder of its A\$15m commitment via 3% convertible promissory notes which convert, at Ridgeback's election, into Prima ordinary shares at 2.00 cents per share
- Prima Board currently considering an SPP to shareholders which could yield another A\$5m
- Bergen funding arrangement to be mutually terminated

Significant cash reach achieved

- Proceeds fund commencement of our two planned clinical trials of IMP321
 - * A Phase IIb chemoimmunotherapy trial of IMP321 together with paclitaxel to treat metastatic breast cancer in Herceptin-ineligible patients
 - * A Phase I trial of IMP321 together with an immune checkpoint inhibitor
- Pending shareholder approval of Ridgeback's A\$15m investment, Prima can make significant progress with its LAG-3 programs, both existing and new
- Estimated cash reach to late 2016

A transformative capital raise

- Ridgeback is a highly regarded and fundamentally oriented investor in established and emerging healthcare companies
- Ridgeback, which knows immuno-oncology very well, to name new Prima director
- Ridgeback due diligence represents strong validation of Prima's strategy for immuno-oncology and LAG-3
- **Ridgeback's investment has a fixed price**, ie 1.73 cents for its initial placement and 2.00 cents per share for the convertible promissory notes
- Extraordinary General Meeting of Prima shareholders will be held in due course to approve Ridgeback's investment



Thank you

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Merci

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Danke

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Our stock

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- **Current market cap:** A\$50.5m (as at 19 May 2015)
- **Current share price:** 3.4 cents (AUD)
- **Shares on issue, pre Ridgeback** (ASX: PRR): 1.48 billion
- **Listed options on issue** (ASX: PRRO), 77.4 million (5.6% of current issued capital), exercisable at 20 cent by 19/6/2017
- **Unlisted options:** 226.5 million (16.3% of current issued capital), average exercise price 5.44 cents (AUD), average expiry date 7/10/2018
- **Turnover:** ASX, 2.9 million shares per day; Nasdaq, 25,000 ADRs per day (last 12 months average)
- **ISIN:** US745154B2034
- **Share ratio for ADRs traded on Nasdaq:** 1:30 (Depositary is BNY Mellon, Nasdaq: PBMD)
- **ADRs outstanding as at May 2015:** 2.8 million (5.7% of capital)
- **ADRs potentially available for trade on Nasdaq:** 49.5 million
- **Registered shareholders as at May 2015-** ~12,300
- **Substantial shareholders (ie >5%):** None.