



Biosceptre International Limited

nf-P2X₇: A New Paradigm in the Treatment and Diagnosis of Cancer

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Biosceptre
International Limited

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Company Overview



Biosceptre International Limited is dedicated to the discovery and development of a new and novel cancer target and related therapies for the treatment of a broad range of cancer indications

The company's core platform and Intellectual Property position is based on the discovery of a novel cancer biomarker known as 'non-functional' P2X₇ (nf-P2X₇) which has been identified in over 20 cancer indications tested to date

P2X₇ is a major cellular receptor responsible for programmed cell death (apoptosis)
A structural change renders P2X₇ 'non-functional' with respect to inducing apoptosis rendering the cell immortal (cancer) and promotes cell invasiveness (metastases)

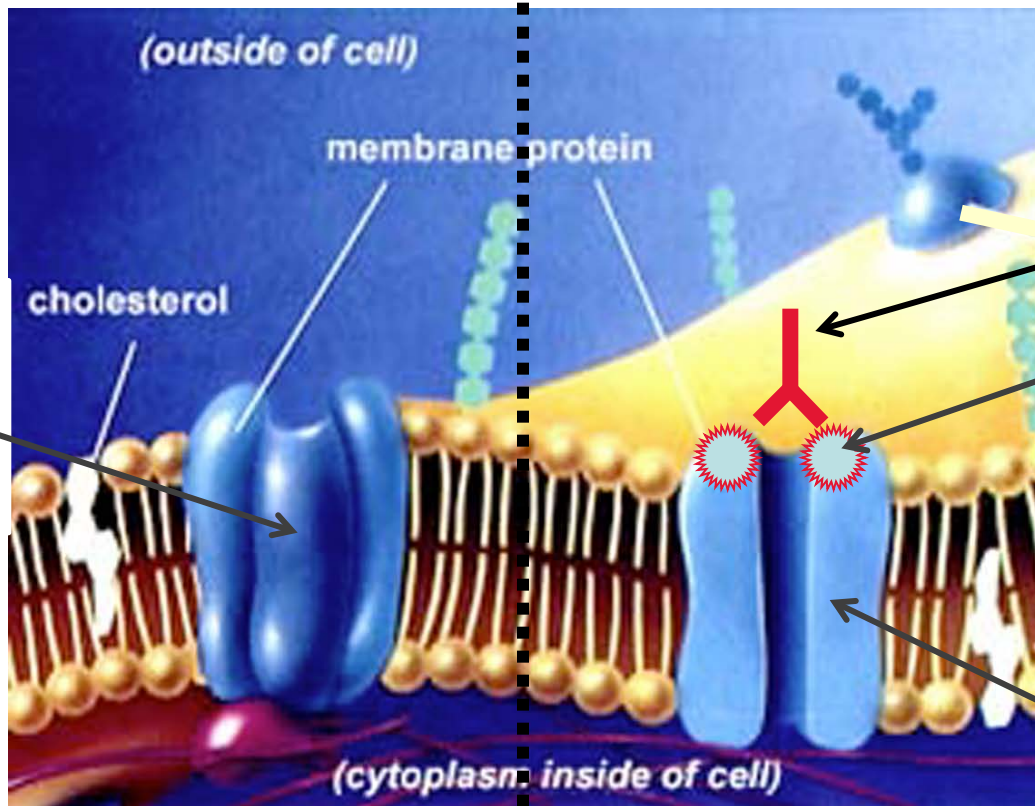
Biosceptre's core focus is to validate nf-P2X₇ as a therapeutic target and develop antibodies for use in proof of concept clinical studies in humans

Unique IP covers detection, treatment and prevention of cancer:
(i) nf-P2X₇ therapeutic target; (ii) therapeutic antibodies; (iii) companion diagnostic;
(iv) applications in imaging, vaccines and animal health

The Target – nf-P2X₇

Normal cell

Cancer cell



Only the fully functional form of P2X₇ can open a pore to induce apoptosis

nf-P2X₇ mAb

Cell surface target is only accessible in nf-P2X₇

nf-P2X₇ constrained conformation inhibits pore formation

Potential Product Opportunities

Strategic focus

**Core
Therapeutic
Programs**



Systemic Therapeutic

Major pharmaceutical opportunity
in cancer treatment

+

Topical Therapeutic (BSCT)

Treatment of non-melanoma skin
cancer

Supporting technology

**Diagnostic
Applications**



Tissue (IHC) and Fluid Based Diagnostics

Companion diagnostic for
biomarker detection and
monitoring treatment

+

***In vivo* Imaging**

Locate specific primary and
secondary cancer sites

Future opportunities

**Other
Therapeutics**



Vaccine

Stop the growth of new cancer
cells

+

Animal Health

Treatment of companion animals

Huge commercial potential

- Oncology antibody market in 2010 was estimated at ~US\$22 billion spread across 7 targets
- With exception of Avastin, most antibodies are approved for 1-2 indications
- Antibody products directed to a new target with broad applicability such as nf-P2X₇ have the potential to significantly expand this market

‘Pipeline in a drug’ opportunity

- Scope for applicability in treatment of a broad range of cancer indications
- Companion diagnostic for patient selection in clinical development program

Product and target licensing opportunities

- Lead antibody program offers product licensing opportunity but also validates underlying target IP
- Scope to license IP to Pharma to address broad application and therapeutic approaches to target

Biosceptre's focus is on the validation of nf-P2X₇ as an antibody therapeutic oncology target

- Two lead antibodies under evaluation for systemic delivery
 - 2F6: monoclonal antibody (mAb)
 - 2-2-1-hFc: domain antibody (dAb)
- Strong *in vitro* and *in vivo* data, plus significant outcomes in the treatment of spontaneous tumours in companion animals
- Lead cancer indication for clinical evaluation to be guided by newly formed Scientific Advisory Board, chaired by Sir Greg Winter, MRC, Cambridge (founder of CAT and Domantis)
- Future development milestones:

Optimised lead with defined target product profile (est. Q1 2012)

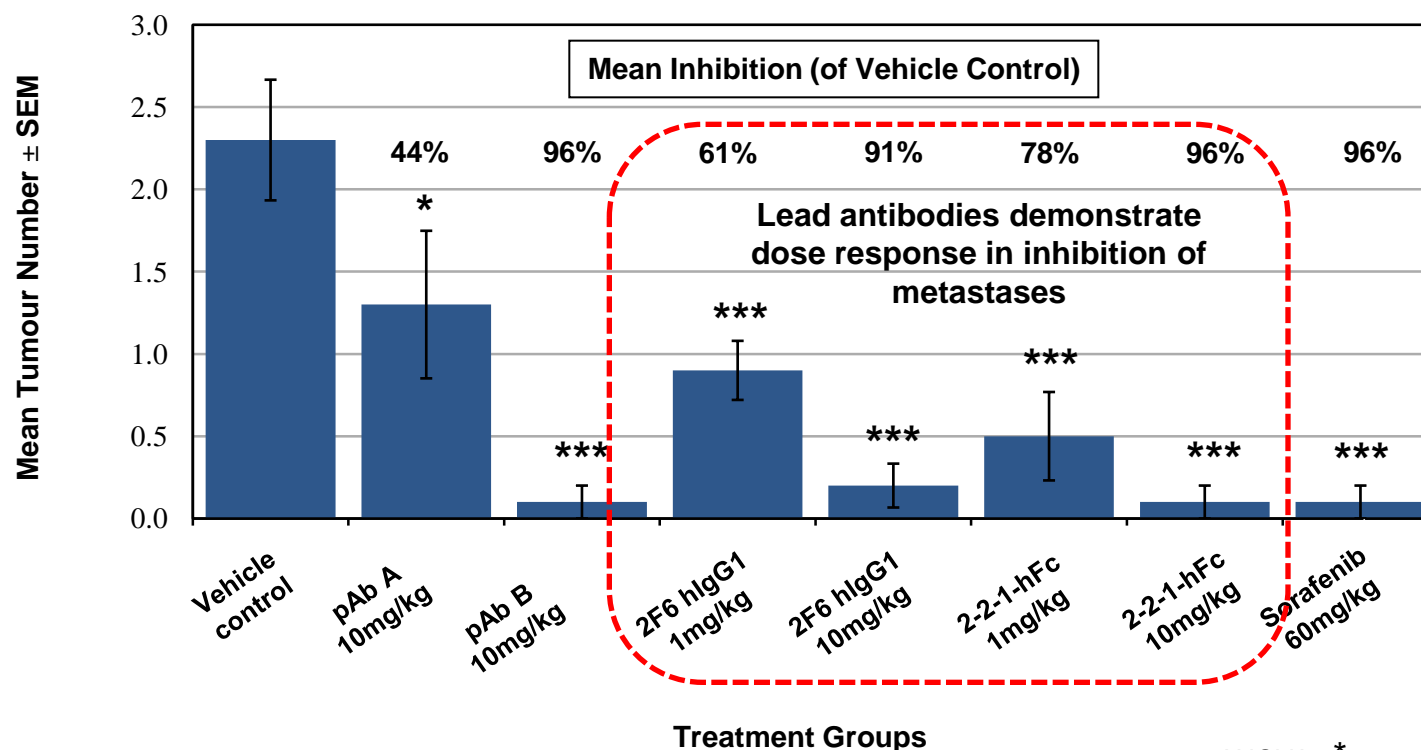
Preclinical validation in lead indication (est. Q2/3 2012)

Additional indications under preclinical testing, building a pipeline of indication (est. Q3 2012)

Master Cell Bank development for systemic lead, enabling process development for GMP manufacture (est. Q4 2012)

Syngeneic Study C57/BL6 Mice with Lewis Lung (LL/2) Tumour

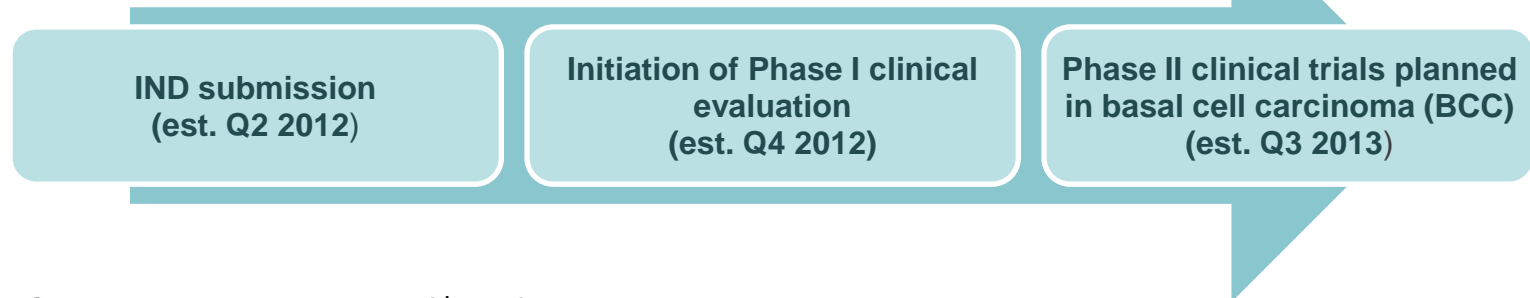
Day 11 Mean Surface Lung Metastases



ANOVA: * = $p < 0.05$, *** = $p < 0.001$

Topical Therapeutic Program (BSCT)

- Polyclonal nf-P2X₇ antibody ointment prepared for topical delivery in the treatment of non-melanoma skin cancers (NMSC)
- Initially developed as a proof of concept to validate nf-P2X₇, subsequent data evaluation suggests advantages over currently available therapies and a significant commercial opportunity
- Key milestones :



- Committed financing (\$8M) through to Phase II clinical proof of concept at which point the company will seek a partner for further development and commercialisation
- Potential to offer target validation and commercial return ahead of systemic program

Lead indication for Topical Program
Example of clinical clearance of a papulonodular BCC



Day 1



Day 6



Day 16

Twice daily application of antibody to the affected lesion which grew rapidly,
after appearing as a faint red patch less than two weeks earlier

Financial Summary

Shares on issue

- 24,704,129

Ownership

- 176 shareholders, predominately HNW's
- Top 20 hold >75%

Funding to date

- ~AUD 23M

Cash on hand

- AUD 2.26M (30.6.11)

Committed funding

- ~AUD 8M drawdown for BSCT development