Bionomics

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Safe Harbor Statement

Factors Affecting Future Performance

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Key Facts

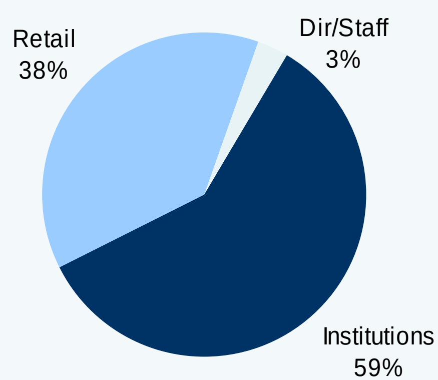
Bionomics

KEY STATISTICS (5.1.12)

ASX Code	BNO
Current Share Price	A$0.58
52 Week High	A$0.77
52 Week Low	A$0.315
Shares on Issue	344.7m
Market Capitalisation	A$199m
Net Cash (30.09.11)	A$18.9m

1 YEAR SHARE PRICE PERFORMANCE

SHAREHOLDING STRUCTURE



BOARD AND MANAGEMENT

Chris Fullerton	Chairman
Deborah Rathjen	CEO & MD
Errol De Souza	Non-Exec Director
Trevor Tappenden	Non-Exec Director
Emile Andriambeloson	Head of Research Neurofit
Andrew Harvey	VP Drug Discovery
Gabriel Kremmidiotis	VP R&D
Melanie Young	CFO

Bionomics: a leading international drug discovery & development company

Bionomics

- Proven technology platform
- Owners of intellectual property
- Multiple Opportunities, Exciting drug pipeline
- Cancer CNS Immune Diseases
- Ironwood Partnership
- Merck Serono Collaboration
- Large end markets with unmet needs
- Near-term value catalysts and de-risking events
- Well funded business
- Strong management team

Bionomics is a leader in the discovery and development of novel, small molecule pharmaceuticals.

The company has utilized its proprietary discovery platform to successfully develop a portfolio of competitively differentiated clinical and preclinical stage programs in a number of therapeutic areas.

Bionomics is harnessing its technology platform to achieve commercial outcomes with specific products in large markets.

The company has a business model capable of generating and sustaining positive shareholder return.

Large end markets with unmet needs

Bionomics

Three core proprietary technology platforms lie at the heart of Bionomics, delivering multiple product opportunities.

Bionomics' has three key compounds in development (BNC105, BNC210, Kv1.3) which are focussed on treatments for solid cancers, CNS conditions and immune diseases respectively.

Bionomics also has a number of other promising early stage compounds.

PROPRIETARY TECHNOLOGY PLATFORMS	
MULTICORE	▪ Proprietary, diversity oriented chemistry platform for the discovery of small molecule drugs
ANGENE	▪ An angiogenesis target and drug discovery platform
IONX	▪ A set of novel technologies for the identification of drugs targeting ion channels for CNS indications

KEY DRUG CANDIDATES			CURRENT PHASE	END MARKET & POTENTIAL SIZE
CANCER	BNC105	▪ Potential solid tumour cancer treatment which works by shutting down blood vessels in tumours	PHASE II	▪ Renal – Sutent (Pfizer) and Nexavar (Bayer/Onyx) global sales of US$2bn in 2010 ▪ Ovarian – US$3.6bn in 2010 ▪ All solid tumour types – Avastin (Genentech/Roche) global sales of >US$7.8bn in 2010
CNS	BNC210	▪ "First in class", novel mechanism to treat anxiety and depression -in partnership with Ironwood	PHASE Ib	▪ Anxiety – global sales of US$5-7bn annually ▪ Depression – global sales US$11bn in 2008
IMMUNE DISEASE	KV1.3	▪ Potential treatment for Multiple Sclerosis -in partnership with Merck Serono	PRE-CLINICAL	▪ Multiple Sclerosis – global sales of >US$12bn in 2010

Bionomics Product Pipeline

Bionomics

BIONOMICS PIPELINE

	DRUG CANDIDATE/PROGRAM	DISCOVERY	PRE-CLINICAL	PHASE I	PHASE II	LICENSEE/PARTNER	POTENTIAL MARKET SIZE
CENTRAL NERVOUS SYSTEM	BNC210 – Anxiety/Depression					Ironwood	Anxiety-global sales US$5-7bn annually Depression – global sales US$11bn in 2008
	Alpha 7 nAChR modulators – Alzheimers Disease						
	GABA-A modulators - Epilepsy						
CANCER	BNC105 – Renal cancer						Renal – Sutent/Pfizer; Nexavar/Bayer & Onyx (US$2bn in 2010)
	BNC105 – Mesothelioma						Mesothelioma – Alimta/Lily (US$2.2bn in 2010)
	Undisclosed Kinase					Cancer Therapeutics CRC	
	BNO69						
IMMUNE DISEASE	Kvl.3 Inhibitors – Multiple Sclerosis					MERCK SERONO	MS – global sales of >US$9bn in 2010

Key Compound **Early Stage Compound**

BNC210 – a next generation compound with potential in the treatment of anxiety and depression

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OVERVIEW

BNC210 is a first in class compound under development for the treatment of anxiety and depression. Data from several preclinical studies indicate that BNC210, through modulation of a novel pathway, has anti-anxiety activity and promotes neurite outgrowth *in vitro.*

- Partnered with Ironwood Pharmaceuticals, development will initially focus on anxiety
- Anxiety disorders affect 40 million Americans each year
  - Anxiety drugs have been amongst the biggest blockbusters. eg. Valium, Prozac (US$5-7 billion pa worldwide)
- Most anxiety drugs have major side-effects
  - Market need for an effective, safe, fast acting, non-sedating, non-addictive drug
- BNC210 performed strongly in two Phase Ib clinical trials, significantly reducing panic symptoms and clearly outperforming competitor Lorazepam in tests measuring attention, memory co-ordination, sedation and addiction
- BNC210 has been administered to 108 healthy subjects to date with excellent safety profile

COMPETITIVE ADVANTAGES OF BNC210*

DRUG	NO SEDATION	NO WITHDRAWAL SYNDROME	NO MEMORY IMPAIRMENT	FAST ACTING	NO DRUG/DRUG INTERACTIONS	ONCE-A-DAY DOSING
BNC210	✓	✓	✓	✓	✓	✓
VALIUM	✘	✘	✘	✓	✓	✓
PROZAC	✓	✘	✓	✘	✘	✓
BUSPAR	✘	✓	✓	✘	✓	✘

* Based on preclinical data and results of Phase Ib trial comparing BNC210 with Lorazepam

Ironwood Partnership

- Financial Terms:
  - Up to US$345 million in upfront and development and regulatory milestone payments
  - Royalties on net sales of products incorporating BNC210
  - US$13 million over the next 24 months, including US$3 million upfront payment
- Ironwood will fund all clinical trials – initial indication anxiety
- Ironwood will be responsible for worldwide development and commercialization of all products incorporating BNC210
- Advantages of the partnership to Bionomics:
  - Leverages Ironwood's significant clinical expertise and patient-centric approach to drug development.
  - Significant investment is required for the further development of BNC210 and this will now be funded by Ironwood.
  - Enables Bionomics to focus on its ongoing Phase II clinical trials of BNC105 and to fast track new drug candidates including its Alpha7 nicotinic acetylcholine receptor program

Successful BNC210 Phase Ib Trials

- One trial evaluated the effect of BNC210 on panic symptoms in healthy volunteers
  - Panic attacks induced by administration of CCK-4
  - Panic symptom severity assessed using the Panic Symptom Scale ("PSS")
  - 59 subjects enrolled;15 subjects classified as having a panic attack upon CCK-4 administration
- BNC210 significantly reduced panic symptoms in subjects and faster than placebo
  - Reduction of both the total PSS score (total symptoms) and the intensity of symptoms in subjects when measured 10 minutes after the induction of a panic attack
  - Number and intensity of symptoms decreased faster than with placebo this reduction in symptoms was significant ($p<0.05$ for both the total symptom score and the intensity of symptoms)
  - BNC210 treated subjects returned to normal emotional status within 10 minutes, compared to 60 minutes on placebo. This trend correlated with the statistically significant reduction in panic symptoms by BNC210

BNC210 vs Lorazepam

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- The second trial compared BNC210 with Valium-like anti-anxiety drug Lorazepam. BNC210 clearly outperformed it in tests measuring attention, memory co-ordination, sedation & addiction
- EEG data showed for the first time BNC210-related changes in human brain activity indicative of efficacy

DRUG/EEG ACTIVITY	δ	γ	α	α1	α2	β	β1	β2	β3
BNC210			↓		↓	↑			↑
LORAZEPAM	↑	↓	↓	↓	↓	↑	↑	↑	↑

↑ **Increased sedation**

↑ **Reduced anxiety**

BNC105 – "Best in Class" targeted Vascular Disruption Agent for cancer treatment

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OVERVIEW

- BNC105 is a novel compound being developed by Bionomics as a Vascular Disruption Agent (VDA) for treatment of solid tumour cancer
- VDAs rapidly shut down existing and new tumour blood vessels with no effect on normal blood vessels
- Currently in Phase II trials for two cancer indications:
  - Renal cell cancer (US)
    - Combination of BNC105 + Afinitor well tolerated, individual patients ≥14 cycles of treatment BNC105 + Afinitor
    - Completion due in 2012
    - Standard treatments: market leader Sutent (Pfizer) had global sales of US$1bn in 2010
  - Mesothelioma (Australia)
    - 43% clinical benefit with 1 objective response showing 57% reduction in tumour measurements
- Clinical trial program for BNC105 expanded to include ovarian cancer trial, market estimated US$3.6bn pa
- Commercial potential comparable to Avastin (Genentech/Roche); global sales >US$7.8 billion in 2010

KEY STATISTICS

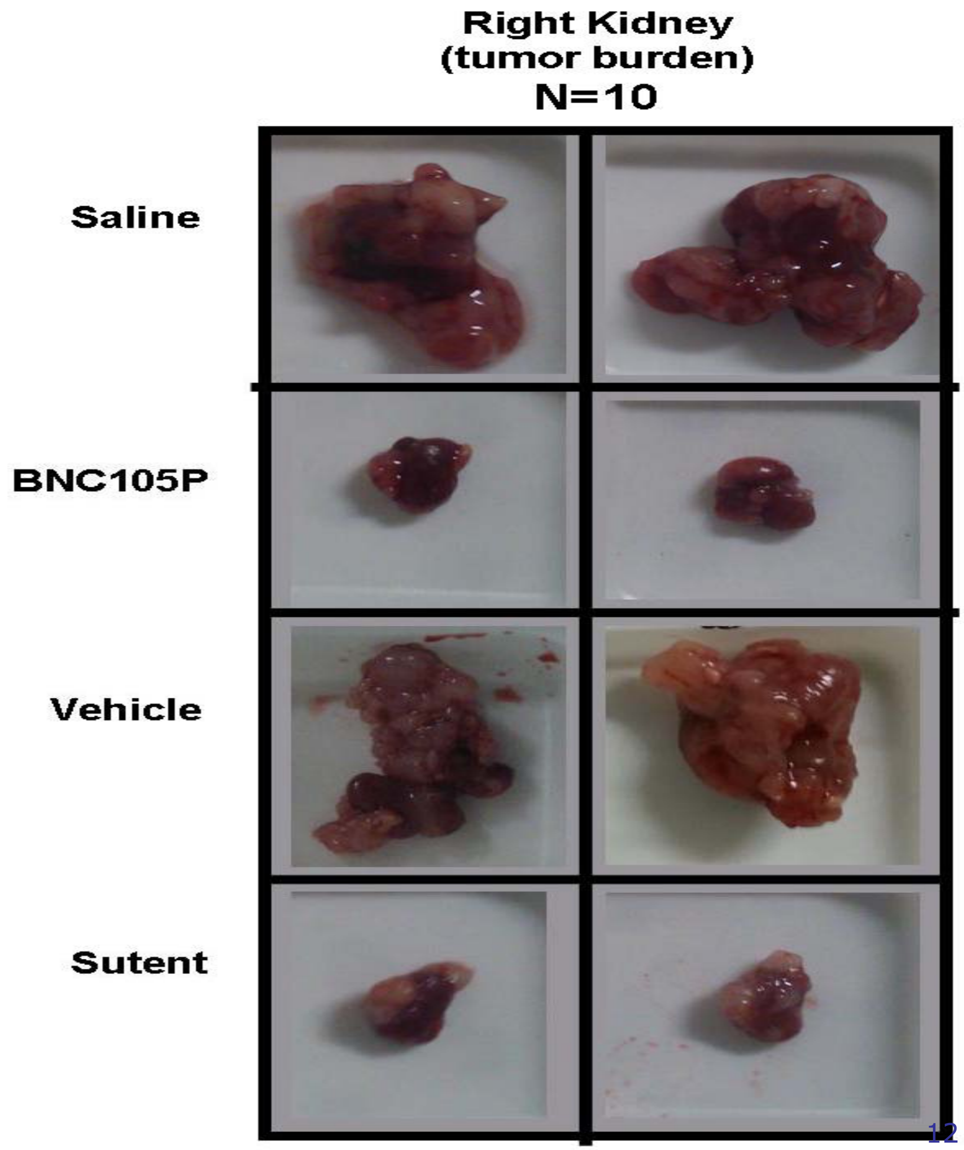
Phase:	▪ Renal -Phase II; Ovarian cancer – Phase I/II trial to commence 1HCY12
Licensing Status:	▪ Unlicensed, currently seeking licensing partner
End Market Size:	▪ Renal: US$2bn (Sutent, Pfizer; Nexavar, Bayer/Onyx) ▪ Ovarian cancer: ≈US$3.6bn ▪ All solid tumours: >US$7.8bn (Avastin, Genentech/Roche)

COMPETITIVE ADVANTAGES OF BNC105

- Dual action - selectivity for tumour blood vessels combined with direct cytotoxic action on tumour cells
  - Less liable to resistance – multiple points of attack, no escape
- Highly selective and rapid vascular disruption traps and concentrates BNC105 within tumour for greater duration of action
  - Potent anti-tumour action with wide window of safety
- Enhances effectiveness of radiation treatment, cytotoxic chemotherapy eg. cisplatin and biological agents such as Avastin
  - Potential for incorporation into all solid tumour treatment regimes

BNC105: Potential paradigm shift in renal cancer treatment

- BNC105 has the potential to represent an entirely new treatment paradigm for patients with renal cancer
- BNC105 is as effective as Sutent in reducing tumour size in animal model
  - Sutent (*Pfizer*) is the current market leader in the treatment of renal cancer
  - Sutent 2010 global sales US$1b
- Encouraging initial results from US renal cancer trial
  - Combination of Afinitor & BNC105 safe & well tolerated
- Over 100,000 people die of renal cancer in the world each year; is 7th most common cancer



BNC105 development expands to Ovarian cancer

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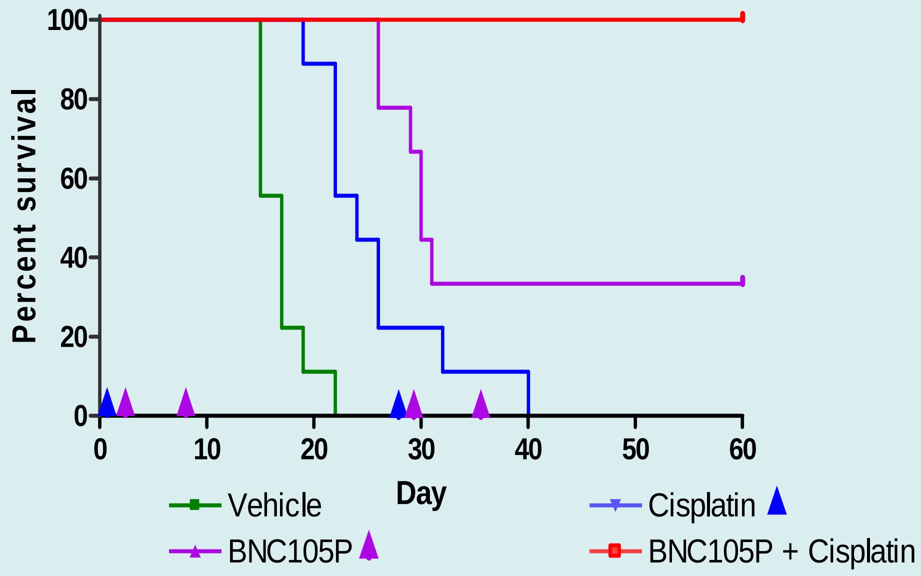
Ovarian cancer is 5th leading cause of cancer-related death among women

21,880 new cases & 13,850 deaths from ovarian cancer in US in 2010. ~$2.2b pa spent in US on treatment of ovarian cancer

- Strong preclinical data in ovarian cancer:
  - BNC105 **50,000x** more potent in killing cisplatin resistant ovarian tumours
  - Treatment of cancer-bearing animals with BNC105 + cisplatin results in 100% survival



BNC105:Multiple opportunities and fast track to market

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Phase I trial – patients with advanced solid cancers

Phase II trial – Renal
BNC105 +Afinitor
(Novartis)

Other cancers with potential for ***BNC105 + Afinitor*** treatment – *Breast, Gastric, Liver, Pancreatic Neuroendocrine tumours*

Fast Track Approval – Renal

Phase I/II trial – Ovarian
BNC105 + Carboplatin (*BMS*)
+ Gemcitabine *(Eli Lilly)*

Other cancers with potential for ***BNC105 + Gemcitabine + Carboplatin*** treatment include *Lung cancer*
BNC105 + Cisplatin treatment – include *Prostate, Breast, Melanoma, Sarcoma, Mesothelioma*

Fast Track Approval – Ovarian

Kv1.3 Blockers – a new approach for Multiple Sclerosis therapy

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OVERVIEW

- Kv1.3 is a preclinical stage group of compounds in Bionomics' pipeline, targeting inflammatory disorders including Multiple Sclerosis
- Utilises MultiCore® chemistry and ionX® platforms
- BNO partnered its Kv1.3 program with Merck Serono a leading pharmaceutical company and pioneer of new treatments for Multiple Sclerosis including Rebif® (2009 sales US$2.05 billion; projected US$2.24 billion sales in 2010).
  - Revenue to BNO per successful compound: up to US$47 million in milestone payments + royalties
  - Merck Serono to fund all clinical development and commercialisation
- Annual revenue of Multiple Sclerosis drugs world wide >US$12 billion in 2010; significant market growth projected to 2025
  - Targeting Kv1.3 also has potential in the treatment of Rheumatoid Arthritis and Psoriasis – expanded market opportunity
- Potential to lead to a patient friendly Multiple Sclerosis drug which is:
  - Highly effective with fewer side affects
  - Orally active (not injected)

LICENSING TERMS

Licensing Partner:	MERCK SERONO
Licensing Date:	June 2008
Upfront Payment Received:	US$2m
Milestone Payments:	Up to $47m per successful compound plus royalties
Program Expenditure:	Fully funded by Merck Serono

Discovery Programs

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CANCER	UNDISCLOSED KINASE	▪ Novel kinase inhibitory activity for the treatment of haematological and solid malignancies currently in discovery phase ▪ Partnered with CRC-CTx
	BNO69	▪ Potential angiogenesis inhibitor for the treatment of solid tumours ▪ Utilises Angene platform
CNS	Alpha 7 nicotinic acetylcholine receptor modulator	▪ Targets improvement of memory in Alzheimer's disease, Schizophrenia and other conditions ▪ Significant end markets with Bionomics estimate for Alzheimer's market at US$5bn by 2012 and Schizophrenia market US$4.3bn by 2011
	GABA-A-MODULATOR	▪ Potential treatment for Epilepsy ▪ Utilises ionX platform

α 7 Nicotinic Acetyl Choline Receptor Positive Allosteric Modulators (PAM)

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- Market opportunity includes many neurodegenerative and psychiatric disorders:
  - Alzheimer's Disease, Parkinson's Disease, Schizophrenia, ADHD and mood and anxiety disorders

	Prevalence	Global sales
Alzheimer's Disease	9.7 Million	\$5.6 Billion
Cognitive Dysfunction in Schizophrenia	3.4 Million	No approved products
ADHD	44.9 Million	\$4.2 Billion

- α7 NAChR receptor agonists improve attention, working memory and recognition memory
- Advantages of PAM: allows "fine-tuning" of receptor activity with a broader margin of safety
  - Normalizing the physiological response
  - Preserving the integrity of neurotransmission
  - Allows more effective tonic cholinergic input and show less receptor desensitization
  - Avoid toxicity associated with cholinergic excess and high influx of Ca^{++}

Outlook

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- BNC210:
  - International patent approvals 1Q, CY2012
  - Progress in partnership with Ironwood
- BNC105:
  - Presentation of new data at major international conferences ASCO-GU/AACR/ASCO in 1Q & 2Q CY2012
  - Initiation of ovarian cancer trial in 1H CY2012
  - Completion of enrolment in renal cancer trial in 4Q CY2012
- Progress in Merck Serono collaboration towards milestone triggers
- Drug candidate selected for clinical trials from “Alpha 7” project

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ASX:BNO
January 2012

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