Bionomics

Investor Presentation
August 2011

Deborah Rathjen
CEO & Managing Director

Safe Harbor Statement

Factors Affecting Future Performance

This presentation contains "forward-looking" statements within the meaning of the United States' Private Securities Litigation Reform Act of 1995. Any statements contained in this presentation that relate to prospective events or developments, including, without limitation, statements made regarding Bionomics' development candidates BNC105, BNC210, its drug discovery programs and pending patent applications are deemed to be forward-looking statements. Words such as "believes," "anticipates," "plans," "expects," "projects," "forecasts," "will" and similar expressions are intended to identify forward-looking statements.

There are a number of important factors that could cause actual results or events to differ materially from those indicated by these forward-looking statements, including risks related to our available funds or existing funding arrangements, a downturn in our customers' markets, our failure to introduce new products or technologies in a timely manner, regulatory changes, risks related to our international operations, our inability to integrate acquired businesses and technologies into our existing business and to our competitive advantages, as well as other factors. Results of studies performed on competitors products may vary from those reported when tested in different settings.

Subject to the requirements of any applicable legislation or the listing rules of any stock exchange on which our securities are quoted, we disclaim any intention or obligation to update any forward-looking statements as a result of developments occurring after the date of this presentation.

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1. **Bionomics Overview**
2. Encouraging Interim/Initial Results from BNC105 Trials
3. Outlook

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Snapshot

Bionomics is an ASX listed, Australian based international biotechnology company focused on the discovery and development of innovative small molecule therapeutics for cancer, diseases of the central nervous system ("CNS") and immune disorders.

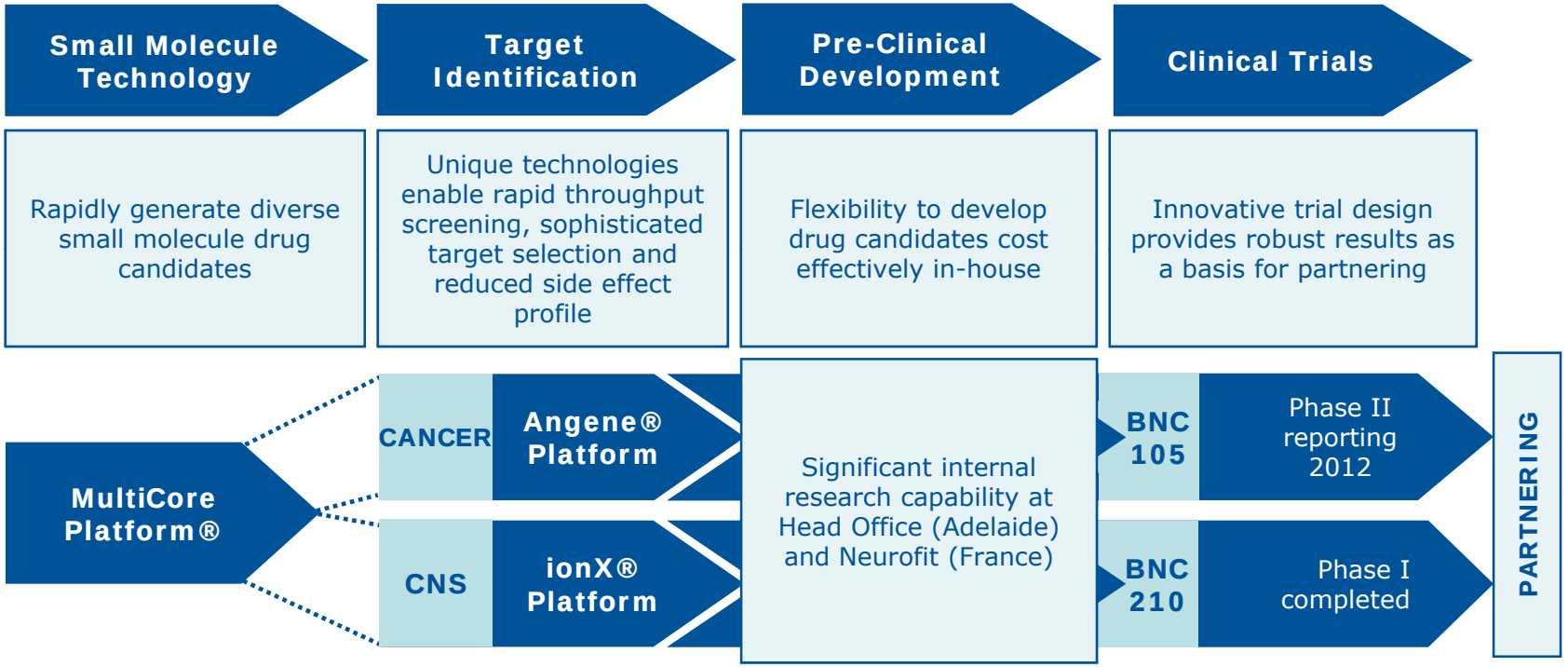
Investment Highlights	**Exciting drug pipeline** **Large end markets with unmet needs** **Proven technology platform** **Owners of intellectual property** **Near-term value catalysts and de-risking events** **Well funded business** **Strong management team**

BNC105	▪ Currently in Phase II for two cancer indications
	  ▪ Renal: randomized, in combination with Afinitor
	  ▪ Mesothelioma: single arm, monotherapy
	  ▪ Completion renal due in 2012
	  ▪ Clinical program to be expanded to include trial in women with ovarian cancer
	▪ Bionomics anticipates licensing BNC105 after full Phase II results (Bionomics remains open to partnering earlier, if possible on the right terms)

BNC210	▪ Performed strongly in two Phase IB clinical trials completed in March 2011 ▪ Major international conference presentations of clinical data ▪ Currently in discussions with a number of parties in relation to partnering BNC210
KV1.3	▪ Merck Serono recently extended its collaboration agreement with Bionomics to 13 June 2012 – following selection of a preferred compound, milestone payments will be due for the Kv1.3 program (total US$47m milestones per compound plus royalty)
DISCOVERY PROGRAMS	▪ Bionomics has a number of discovery programs underway, with Board approved funding committed to Kinase and Alpha 7 programs ▪ Objective to have new undisclosed Kinase and Alpha 7 drug candidates by Q3 CY2012

Bionomics – Leader in Small Molecules

Bionomics is a leading small molecule drug discovery and development company



Multiple Drug Candidates with Large End Markets and Unmet Needs

BNC105: The biggest thing in cancer since Avastin

BNC210: Better than Valium

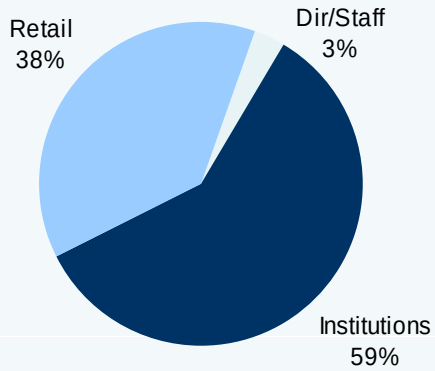
Kv1.3: MS partnered with Merck Serono

Key Facts

KEY STATISTICS (02.08.11)	
ASX Code	BNO
Current Share Price	A$0.65
52 Week High	A$0.77
52 Week Low	A$0.24
Shares on Issue	344.7m
Market Capitalisation	A$220.6m
Net Cash (30.06.11)	A$17.5m

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

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BNC105 Development Strategy

- Two pronged approach involving the use of BNC105 either, in combination with other established methods of cancer treatment, or as a monotherapy
- Key objective to consolidate the safety profile, obtain early evidence of efficacy and delineate the development path
  - Learn as much about BNC105 in cancer patients in the most efficient way
- First approach adopted in renal trial and planned ovarian cancer trial
  - BNC105 + Afinitor (renal)
  - BNC105 + carboplatin and gemcitabine (ovarian)
- The second approach was adopted in the mesothelioma trial
- Strategy has provided signals of efficacy and successfully defined the future development path for BNC105 in combination with established chemotherapy regimens

Renal Cell Carcinoma (RCC) Phase II Trial Initial Results

Bionomics

Preclinical data suggests that the combination of BNC105 with the mTOR inhibitor Afinitor will result in higher therapeutic benefit in TKI (Sutent, Nexavar) refractory RCC patients than treatment with Afinitor alone, with minimal toxicity.

- BNC105 is well tolerated at dose level of 12.6 mg/m^2 when administered as a combination therapy with Afinitor
- Currently individual patients with ≥12 cycles of treatment
- Tubulin biomarker data shows 12.6mg/m^2 dose significantly reduces polymerized tubulin levels, the target of BNC105
- A dose level equivalent to 12.6mg/m^2 achieves drug exposure for VDA and anti-tumour activity in preclinical models
- RCC trial data indicates that the trial can proceed to the next stage
  - Based on safety data from mesothelioma trial 16mg/m^2 dose will be evaluated

Mesothelioma Interim Phase II Trial Results

- Single arm, monotherapy (16mg/m^2) in patients progressing after first line chemotherapy with Alimta + cisplatin
- Interim analysis at 24 patients - safety, tolerability and response rate
- BNC105 well tolerated
- Overall clinical benefit ≥25%:
  - One patient with 57% reduction in tumour measurement classified as an objective response remains on treatment with a clear, durable response
  - At least 5 patients to date classified as having stable disease
  - Ongoing evaluation of patients continuing on treatment with BNC105.
- Results warrant further research into its integration with established chemotherapy regimens: consider development of BNC105 for the treatment of mesothelioma as first line therapy in combination with Alimta + cisplatin
- Dataset valuable for licensing package, no further enrolment into trial

Ovarian Cancer Trial

- Bionomics will evaluate BNC105 in combination with carboplatin + gemcitabine in a multi-centre randomised Phase I/II trial in Australia and the US
- Strong preclinical data:
  - BNC105 effective against cisplatin resistant ovarian tumours
  - BNC105 + gemcitabine and BNC105 + cisplatin results in increased therapeutic benefit (tumour regression and survival)
- Drugs used to treat ovarian cancer 2010 sales ≈US$3.6 billion
- Ovarian cancer is the fifth leading cause of cancer-related death among women, often diagnosed at an advanced stage, after the cancer has spread beyond the ovary
- In 2010 there were an estimated 21,880 new cases and 13,850 deaths from ovarian cancer in the US. It is estimated that approximately $2.2 billion is spent in the US each year on treatment of ovarian cancer
- In 2006 in Australia 1,226 ovarian cancer cases were diagnosed. The number of ovarian cancer cases in Australia increased by 47% between 1982 and 2006

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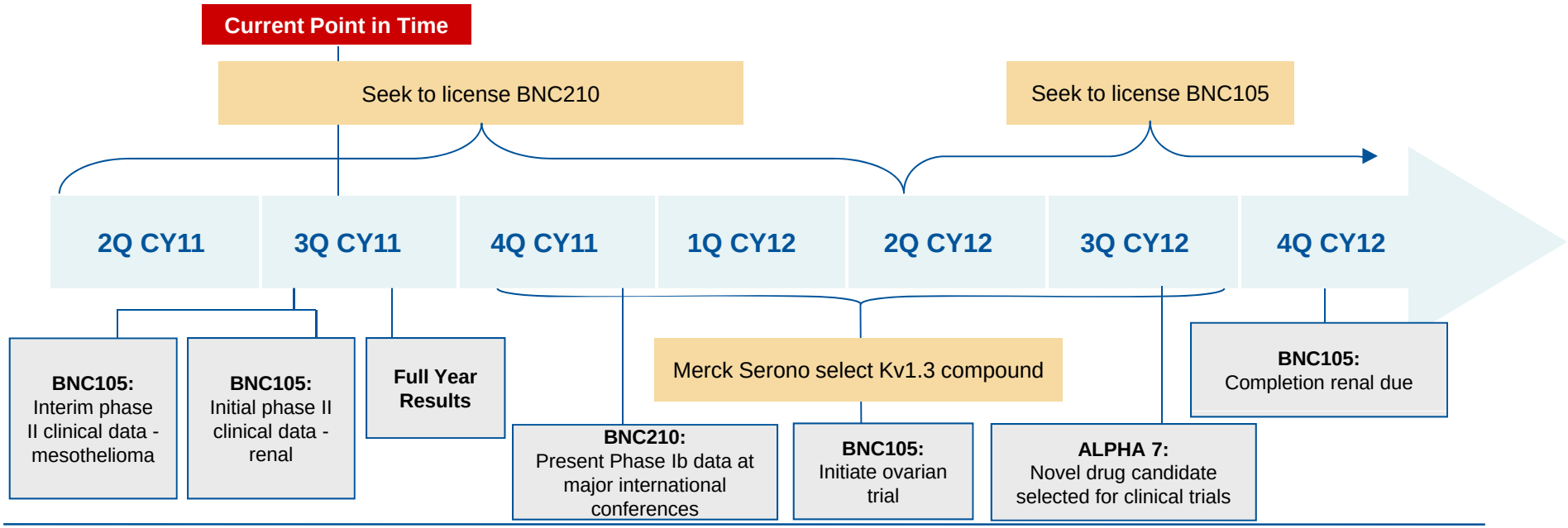
Outlook

The next 12 months will see a number of important near term valuation catalysts for Bionomics shareholders, including:

- BNC105 Phase II final clinical trial results
  - Renal – completion due in 2012
  - Ovarian – initiation 1H, CY 2012
- Licensing agreements for key BNC210 compound
  - Bionomics is currently in discussions with a number of parties in relation to partnering BNC210 (and anticipates licensing BNC105 after full Phase II results are available (2012-2013))
- Milestone payments from Merck Serono in relation to Kv1.3 program

KEY SHARE PRICE CATALYSTS AND DE-RISKING EVENTS



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Key Investment Highlights

EXCITING DRUG PIPELINE	▪ Two potential blockbuster drugs – BNC105 and BNC210
	  ▪ BNC105 – solid tumour cancer treatment which works by shutting down blood vessels in tumours
	  ▪ BNC210 – a "next generation" compound under development for anxiety and depression
	▪ Kv1.3, which has been partnered with global biotech Merck Serono, for the treatment of Multiple Sclerosis
	▪ Additional pipeline of early stage compounds

LARGE END MARKETS WITH UNMET NEEDS	▪ BNC105 – Renal market of US$2bn in 2010 (Sutent/Pfizer; Nexavar/Bayer & Onyx); Ovarian market of US$3.6bn in 2010; commercial potential >US$6.5bn in 2010 (Avastin/Genentech & Roche) ▪ BNC210 – Global Anxiety market of US$15bn annually; Global Depression market of US$11bn annually ▪ Kv1.3 – Multiple Sclerosis market size of >US$9bn in 2010
NEAR TERM VALUATION CATALYSTS / DE-RISKING EVENTS	▪ Bionomics is currently in licensing discussions with a number of potential partners in relation to BNC210, presenting the opportunity for significant near term upfront and milestone payments ▪ Following the release of these encouraging BNC105 trial results, Bionomics has optionality to consider partnering discussions near-term or to wait until after full Phase II results for the renal trial are available ▪ Merck Serono recently extended its collaboration agreement with Bionomics to 13 June 2012 – following selection of a preferred compound, milestone payments will be due for the Kv1.3 program (total US$47m milestones per compound plus royalty)

Key Investment Highlights (cont'd)

PROVEN TECHNOLOGY PLATFORM	▪ Proprietary drug discovery/platforms to support future pipeline and deals - Multicore®, Angene®, ionX®
OWNERS OF INTELLECTUAL PROPERTY	▪ Bionomics is the owner of the intellectual property in relation to its core technology platforms, compounds and methods of use
WELL FUNDED BUSINESS	▪ Estimated cash balance as at 30 June 2011 of A$17.5m, provides two and a half years of cash coverage based on currently projected burn rates ▪ Improved cash position (due to recent capital raising and sale and leaseback of premises ($4.1m positive cash)) provides sufficient funding to execute licensing strategy and invest in development pipeline
STRONG MANAGEMENT TEAM	▪ Strong management and scientific team with significant experience in identifying, developing and commercialisation of drug candidates

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Platform Technologies Deliver Strong Product Pipeline

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.

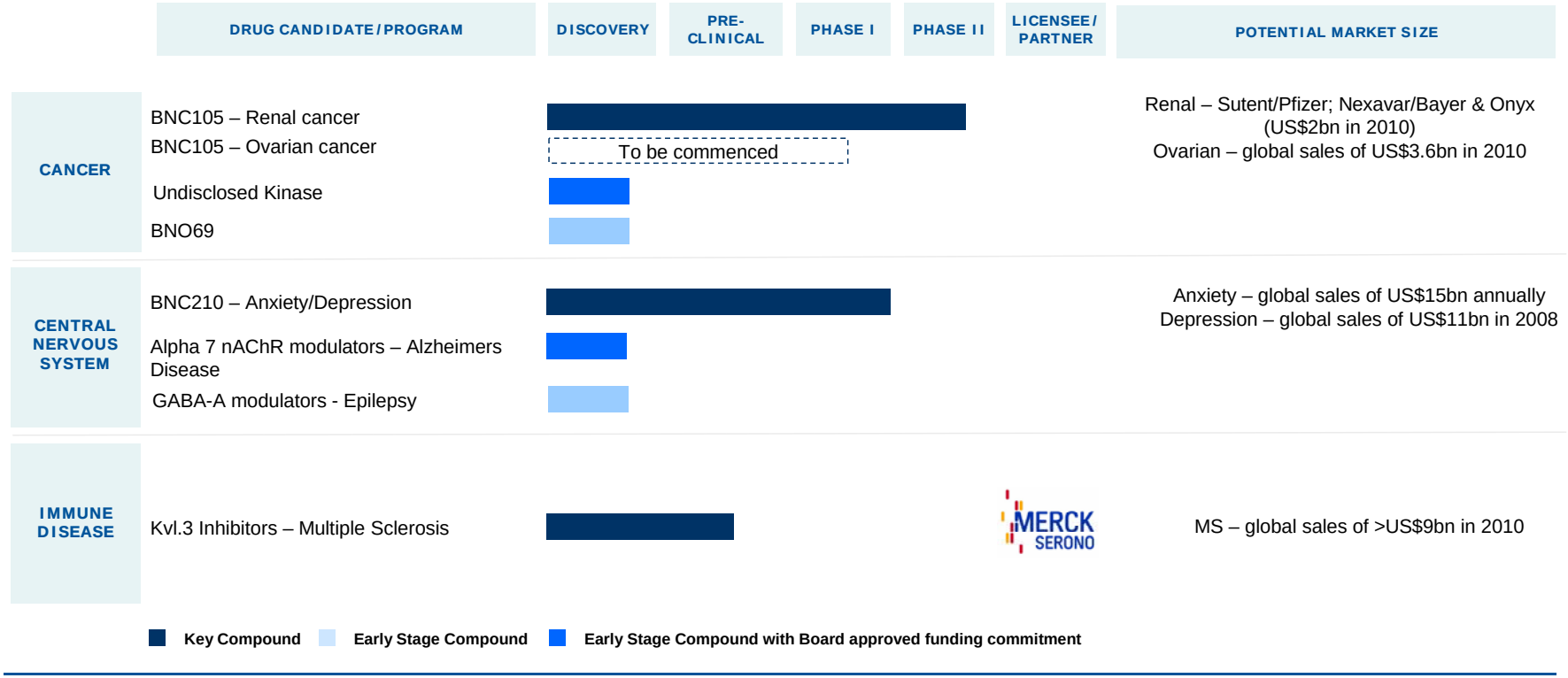
Bionomics also has a number of other promising early stage compounds with funds from the recent capital raising being dedicated to actively progressing some of these.

PROPRIETARY TECHNOLOGY PLATFORMS		KEY DRUG CANDIDATES			CURRENT PHASE	END MARKET & POTENTIAL SIZE
MULTICORE	▪ Proprietary, diversity oriented chemistry platform for the discovery of small molecule drugs	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$6.5bn in 2010
ANGENE	▪ An angiogenesis target and drug discovery platform	CNS	BNC210	▪ "First in class", novel mechanism to treat anxiety and depression	Moving into PHASE II	▪ Anxiety – global sales of US$15bn annually ▪ Depression – global sales US$11bn in 2008
IONX	▪ A set of novel technologies for the identification of drugs targeting ion channels for CNS indications	IMMUNE DISEASE	KV1.3	▪ Potential treatment for Multiple Sclerosis (in partnership with Merck Serono)	PRE-CLINICAL	▪ Multiple Sclerosis – global sales of >US$9bn in 2010

Product Pipeline

Bionomics has a large portfolio of drug candidates in various stages of development, of which BNC105, BNC210 and Kv1.3 are the most advanced with potentially significant end-user markets with unmet needs.

BIONOMICS PIPELINE



BNC105 – the leading targeted Vascular Disruption Agent for cancer treatment

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 (152 patients, US)
    - Initial data warrants continuation, well tolerated, individual patients ≥12 cycles of treatment BNC105 + Afinitor
    - Completion due in 2012
    - Standard treatments: market leader Sutent (Pfizer) had global sales of US$1bn in 2010
  - Mesothelioma (60 patients, Australia)
    - Interim analysis on first 24 patients ≥25% clinical benefit, no further enrolment, focus on combination therapy
    - Valuable dataset for licensing package
- 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$6.5 billion in 2010

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 regime

KEY STATISTICS

Phase:	▪ Renal -Phase II; Ovarian cancer – Phase I/II trials 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$6.5bn (Avastin, Genetech/Roche)

COMPARABLE LICENSING TRANSACTION

Deal	**ASA404 – Novartis**
Up front Payment	▪ US$75m
Milestone Payments	▪ US$890m
Royalty	▪ Double Digit

BNC210 – a next generation treatment for anxiety and depression

Bionomics

OVERVIEW

- BNC210 is a "next generation" compound under development for treatment of anxiety and depression
- Anxiety disorders affect 40 million Americans each year
  - Anxiety drugs have been amongst the biggest blockbusters. eg. Valium, Prozac (US$15 billion pa worldwide)
- Depression affects an estimated 121 million people worldwide
  - Anti-depressant drug market sales almost US$11 billion in 2008
- 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 completed in March 2011, significantly reducing panic symptoms and clearly outperforming competitor Lorazepam in tests measuring attention, memory co-ordination, sedation and addiction

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	✘	✓	✓	✘	✓	✘

KEY STATISTICS

Phase:	▪ Moving into Phase II trials following recently completing positive Phase 1b trials
Licensing Status:	▪ Unlicensed, currently in discussions with a number of potential license partners
End Market Size:	▪ Anxiety: US$15bn worldwide ▪ Depression: US$11bn worldwide

COMPARABLE LICENSING TRANSACTION

Deal	**AMG403 – J+J**
Upfront Payment	▪ US$50m
Milestone Payments	▪ US$385m
Royalty	▪ Undisclosed

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

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 (recently extended collaboration agreement to 13 June 2012), 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 was >US$9 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

Bionomics has a number of discovery programs underway, with Board approved funding committed to the Kinase and Alpha 7 programs.

	DRUG CANDIDATE/ PROGRAM	DESCRIPTION
CANCER	UNDISCLOSED KINASE	▪ Novel kinase inhibitory activity for the treatment of haematological and solid malignancies currently in discovery phase ▪ Partnered with CRC-CTx ▪ Board approved funding committed – objective is to have a new drug candidate by Q3 CY2012
	BNO69	▪ Potential angiogenesis inhibitor for the treatment of solid tumours ▪ Utilises Angene platform
CNS	ALPHA 7	▪ Targets Alzheimer's disease and Schizophrenia ▪ Significant end markets with Bionomics estimate for Alzheimer's market at US$5bn by 2012 and Schizophrenia market US$4.3bn by 2011 ▪ Board approval funding committed – objective is to have a new drug candidate by Q3 CY2012
	GABA-A-MODULATOR	▪ Potential treatment for Epilepsy ▪ Utilises ionX platform

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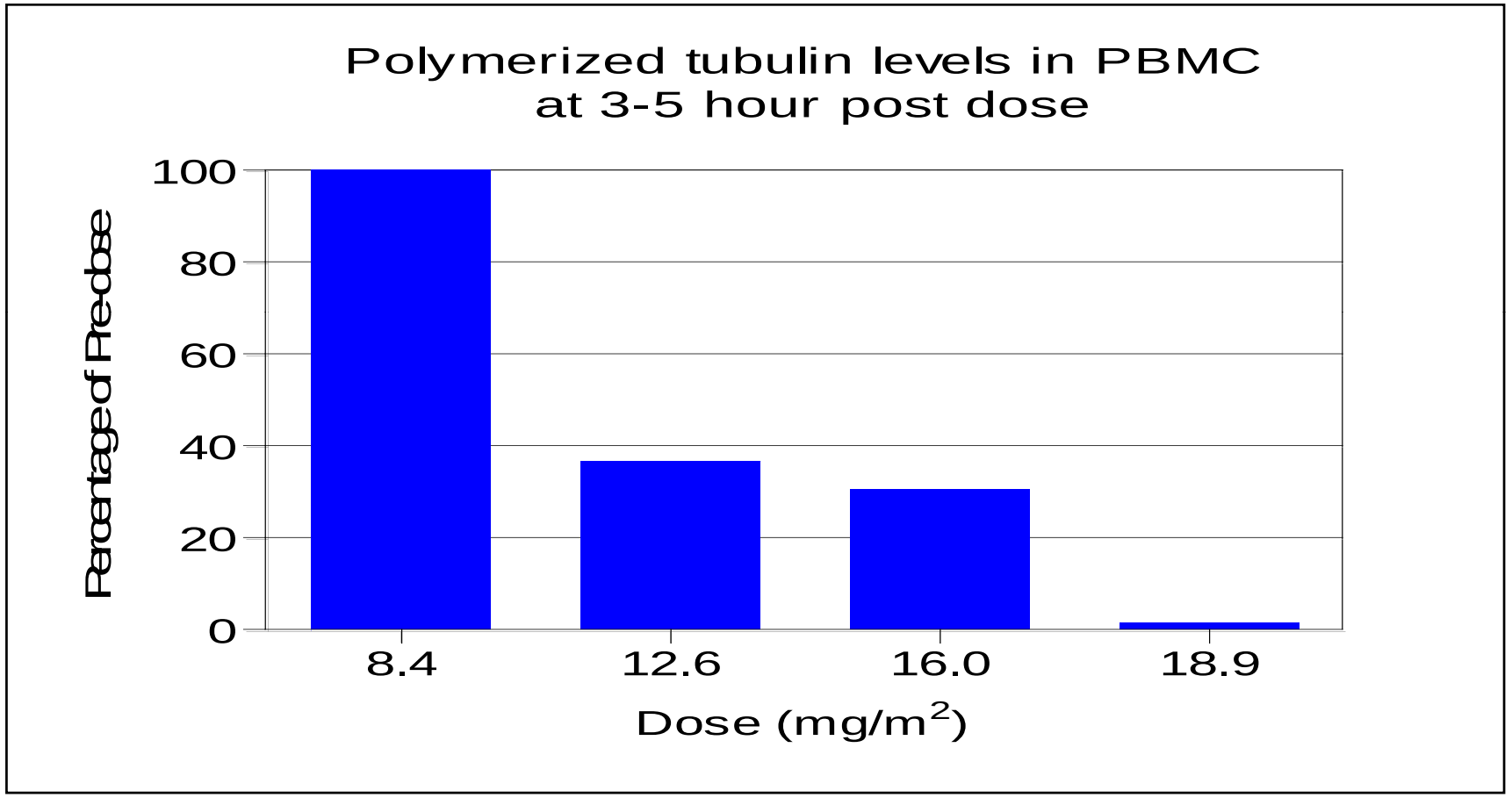
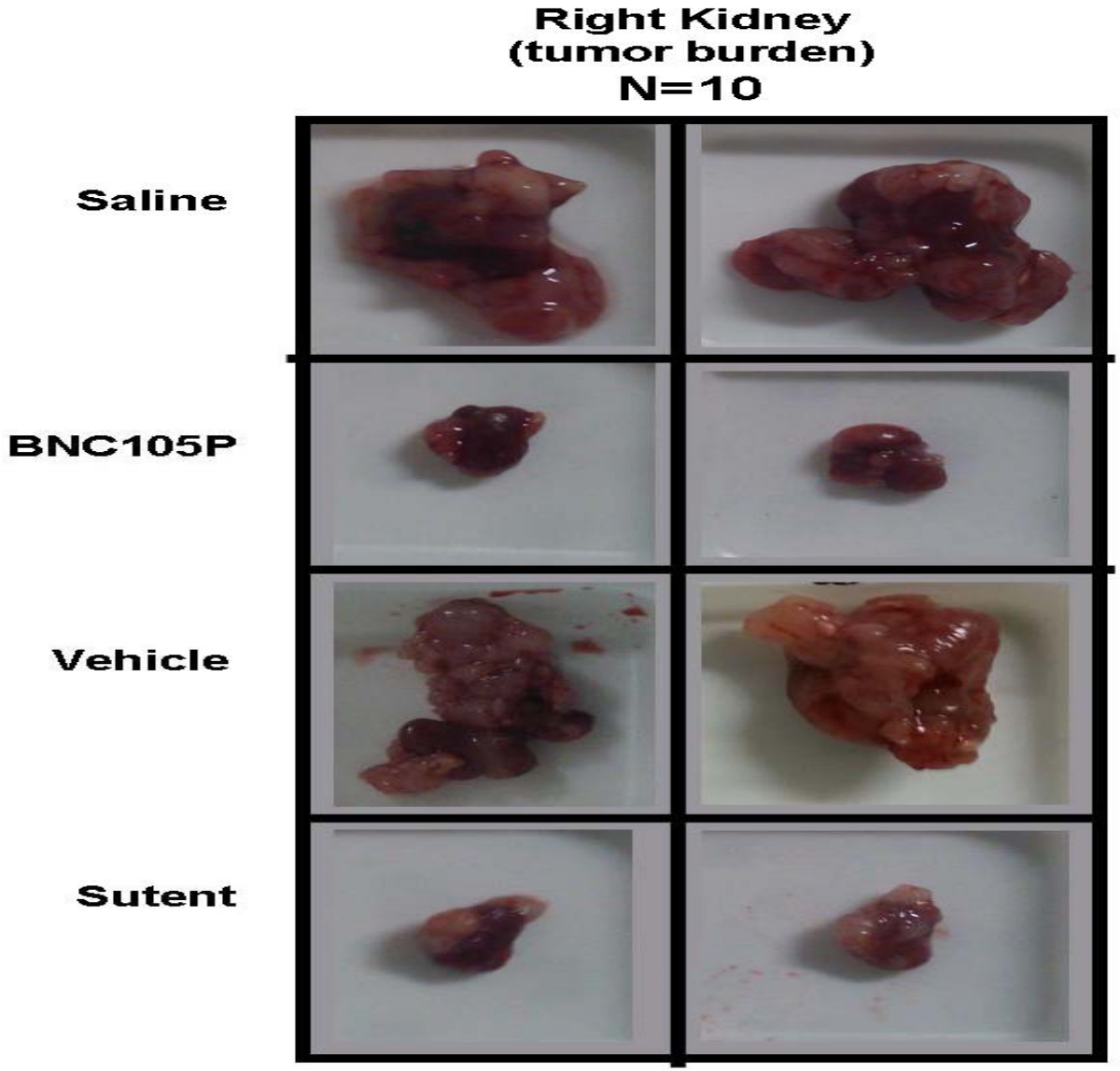
BNC105 Exhibits "On Target" Activity in Patient Samples



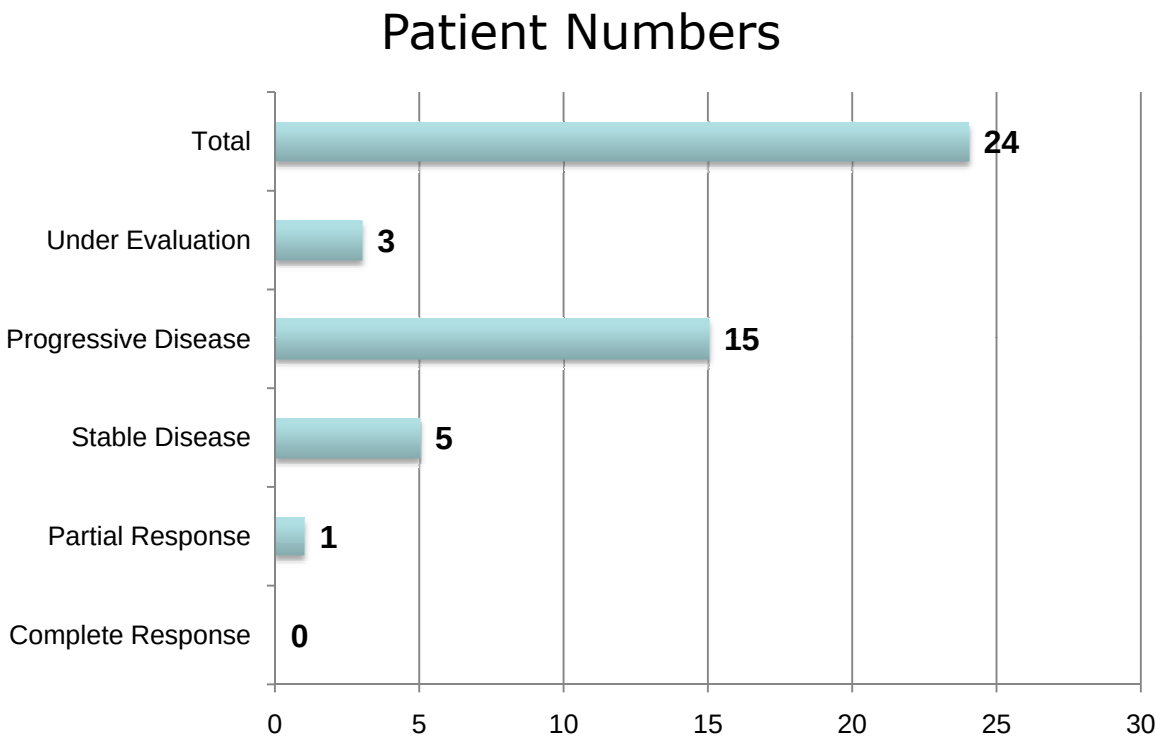
No other VDA has demonstrated "on target" activity in cancer patients

BNC105 inhibits tumor growth in the RENCA orthotopic renal cancer model comparable to Sutent

Bionomics

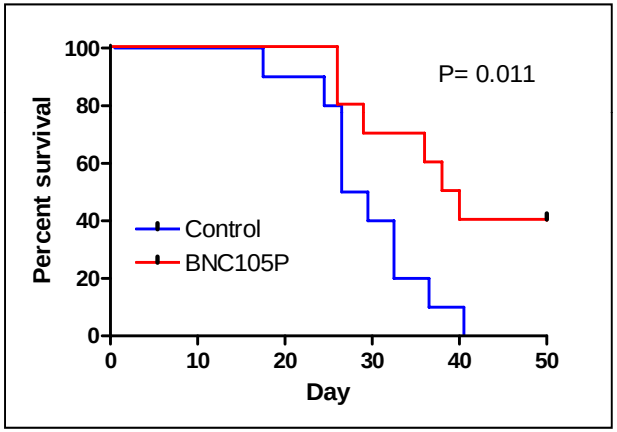


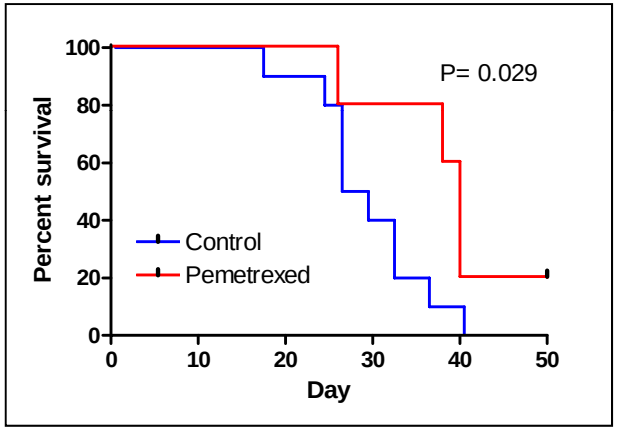
Mesothelioma trial patient responses

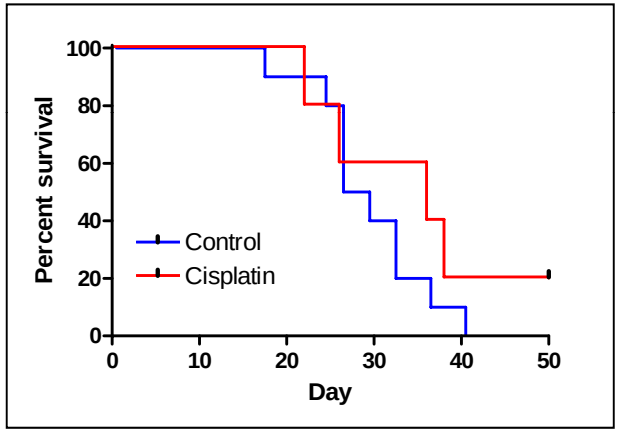


- Overall Clinical Benefit ≥ 25%
- PR patient 57% reduction in tumour measurement

BNC105 is More Effective than Pemetrexed and Cisplatin in a Xenograft Model of Mesothelioma

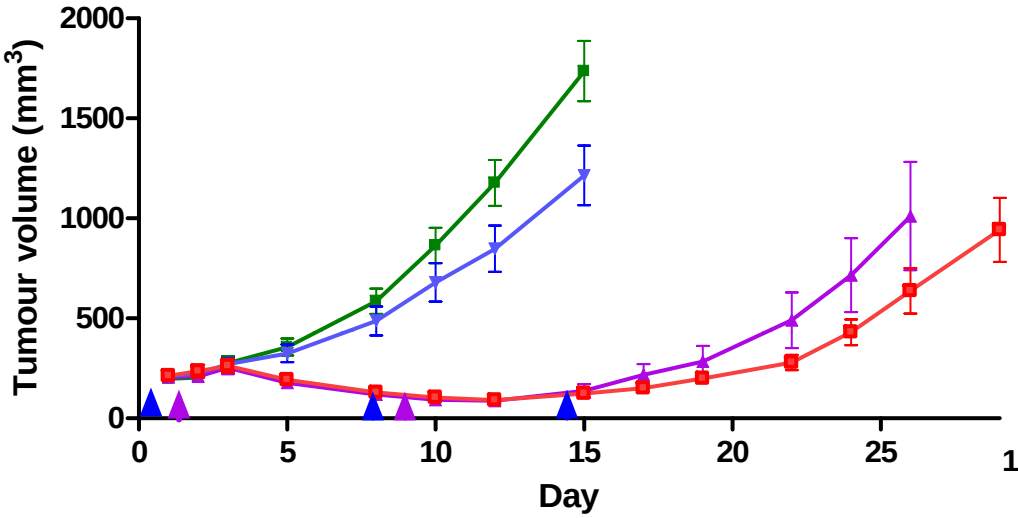


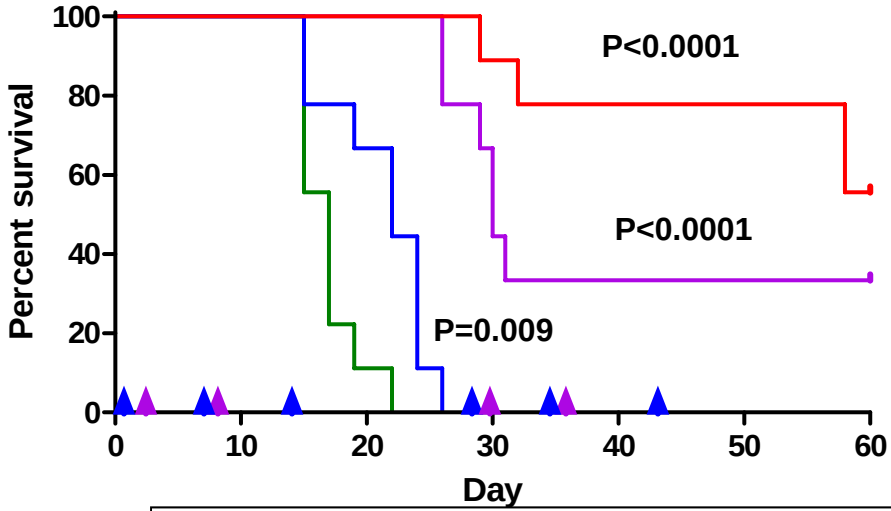




Evaluation of survival with monotherapy in MSTO-211H xenograft model. Balb/C nu/nu mice bearing MSTO-211H tumors treated with BNC105P (32mg/kg) on days Days 2, 9 of 28 day cycle, Pemetrexed (150mg/kg) daily 5 days on 2 days off for 2 weeks or Cisplatin (4mg/kg) day 1 of 28 Day cycle.

BNC105 combination therapy with Gemcitabine

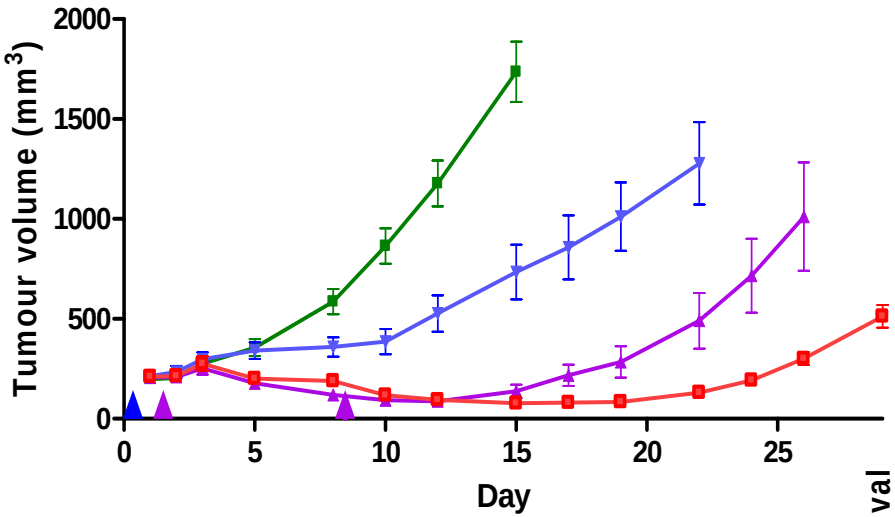


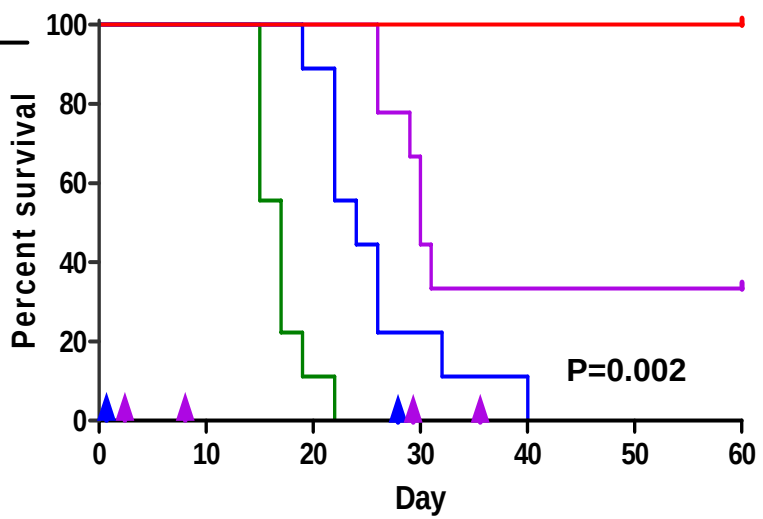


Vehicle
Gemcitabine
BNC105P
BNC105P + Gemcitabine

Balb/c nu/nu mice bearing Calu-6 lung tumors treated with BNC105 (32mg/kg) on days 2 and 9 of 28 day cycle, Gemcitabine (50mg/kg) on days 1, 8, 15 of 28 day cycle, or BNC105P + Gemcitabine

BNC105 combination therapy with Cisplatin

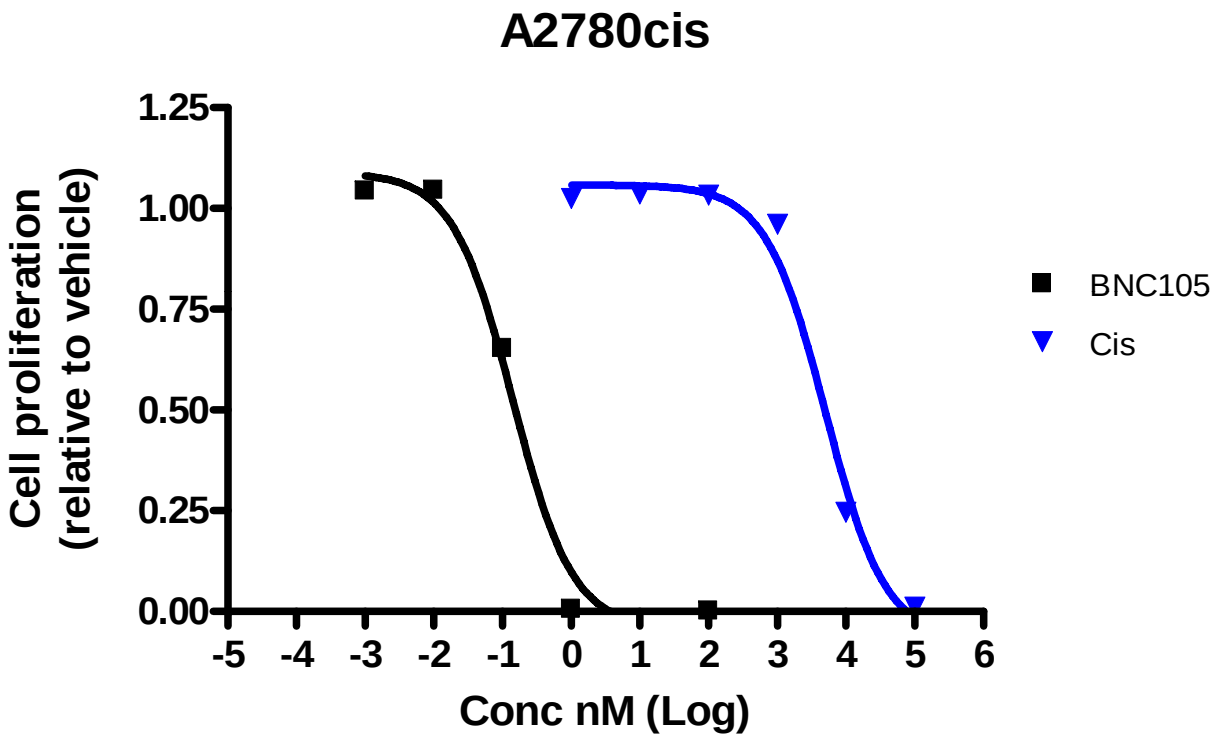




Vehicle
BNC105P
Cisplatin
BNC105P + Cisplatin

Balb/c nu/nu mice bearing Calu-6 lung tumours treated with BNC105 (32mg/kg) on days 2 and 9 of 28 day cycle, Cisplatin (4mg/kg) on day 1 of 28 day cycle, or BNC105 + Cisplatin

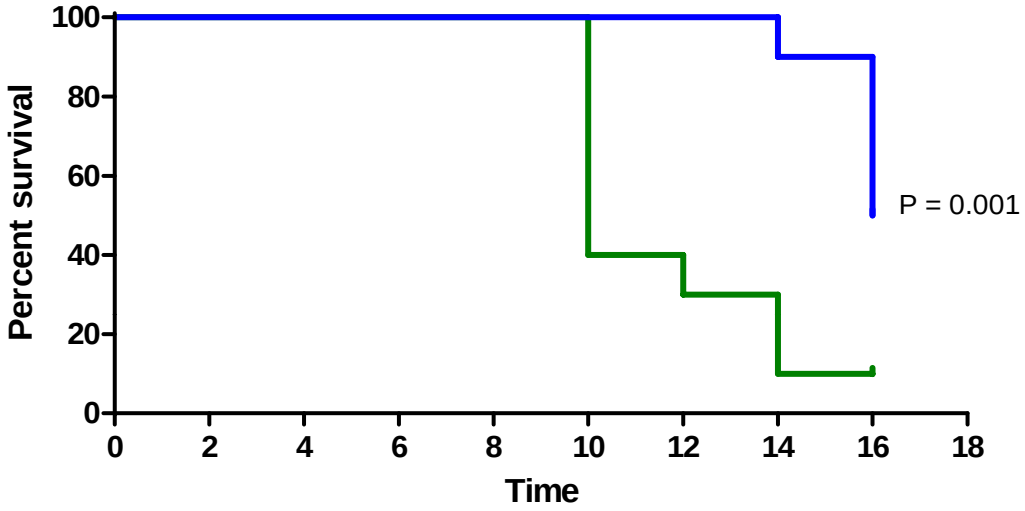
BNC105 effectively inhibits the proliferation of cisplatin resistant ovarian cancer cells

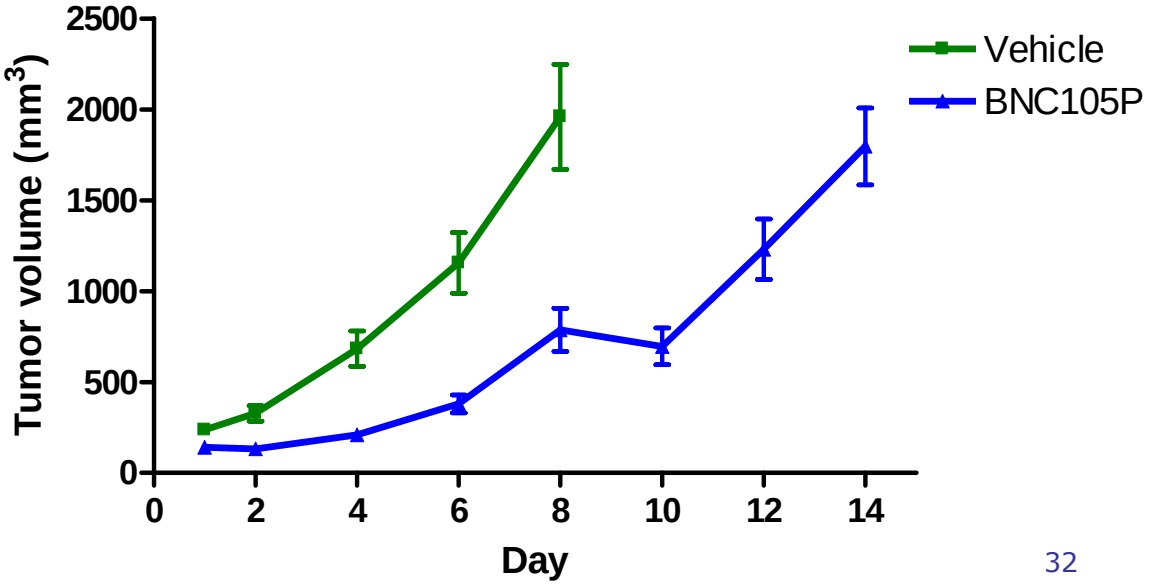


	BNC105	Cis
EC50	0.1414	5021

BNC105 is 5000 times more active than cisplatin

BNC105 is effective in treating cisplatin resistant A2780-cis ovarian tumors

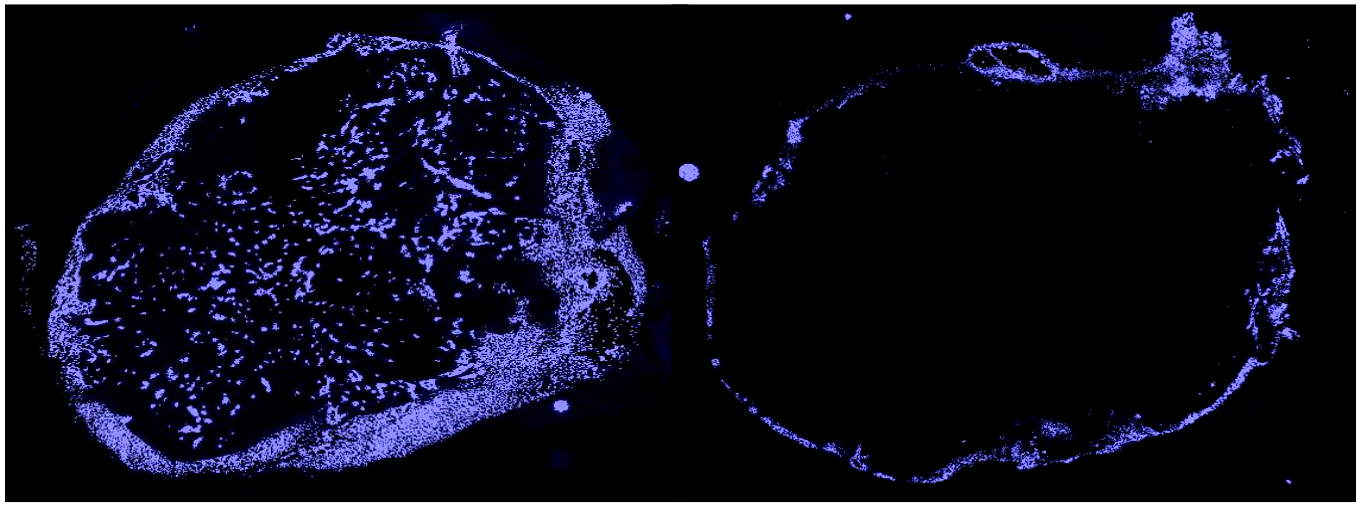




BNC105 Rapidly and Selectively Shuts Down Tumor Blood Vessels

Bionomics

untreated



BNC105 treated

Agent	Company	Activity on Activated HUVEC (EC50, nM)	Activity on Quiescent HUVEC (EC50, nM)	Selectivity Index
BNC105	Bionomics	0.31	25	80.64
Zybrestat	Oxigene	3.6	3.9	1.08
MPC6827	Myrexis	4.79	3.24	0.67
AVE8062	Sanofi aventis	3.95	3.08	0.77

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The Lorazepam Comparison Study

Double-Blinded, Double-Dummy, 4-way Crossover Design; n=21

PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 4
BNC210 DOSE 300 mg & **PLACEBO** to LORAZEPAM	**BNC210 DOSE** 2000 mg & **PLACEBO** to LORAZEPAM	**PLACEBO** to BNC210 & **LORAZEPAM DOSE** 2 mg	**PLACEBO** to BNC210 & **PLACEBO** to LORAZEPAM

Assessments

PRIMARY OBJECTIVE:

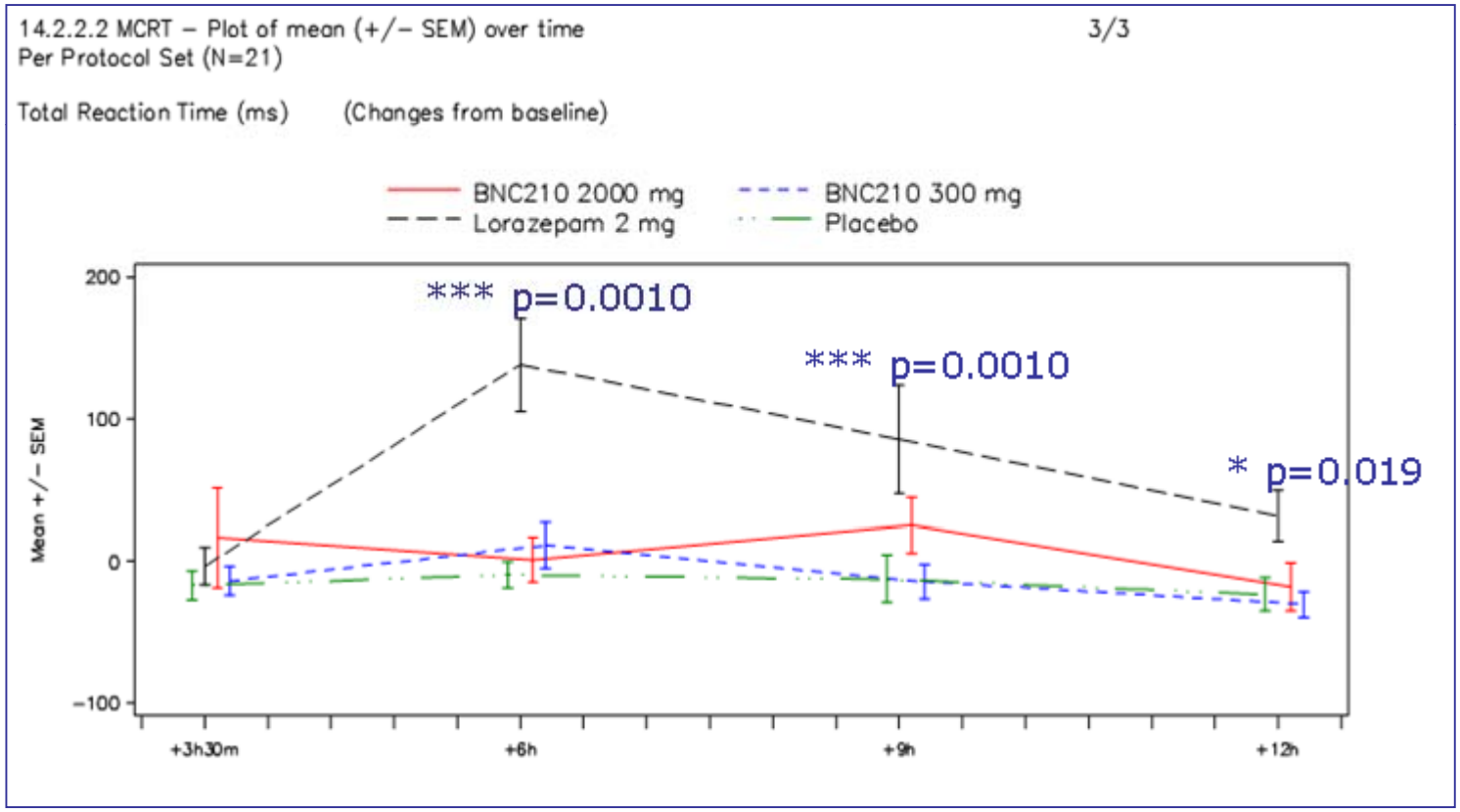
1. Measure of Attention :*Multiple Choice Reaction Time*

SECONDARY OBJECTIVE

1. Measures of Psychomotor Speed :*Digit Symbol Substitution Test*
2. Quantitative Wake EEG
3. Visuomotor Coordination :*Peak Saccadic Velocity*
4. Mood :*eVAS*
5. Sedation :*Karolinska Sleepiness Scale*
6. Memory :*Perceptual Priming Test*
7. Addiction : *ARCI49*
8. Biomarkers :*ACTH and Cortisol Levels*

PRIMARY OBJECTIVE :Measure of Attention Multiple Choice Reaction Time (MCRT)

- A significant effect was observed with 2 mg of Lorazepam at three time points (T+6h, T+9h and T+12h).
- BNC210 did not alter the MCRT.



Summary of Key Findings

- The study confirms that BNC210 has none of the key side effects of Lorazepam, a representative of a major drug class currently used to treat anxiety.
- Importantly EEG data showed BNC210 related changes in brain activity, including increased fast beta EEG-activity, which has been related to reduced anxiety at a functional level. The brain activity changes induced by BNC210 are clearly differentiated from those observed following treatment of subjects with Lorazepam. BNC210 EEG human clinical data are consistent with data obtained in animal studies.

	BNC210 300 & 2000 mg	**Lorazepam** 2 mg
PRIMARY OBJECTIVE		
Attention Multiple Choice Reaction Time	No Effect	Reduced at T+6h, 9h and 12h
SECONDARY OBJECTIVES		
Visuo-motor Co-ordination Peak Saccadic Eye Movement	No Effect	Reduced at T+6h, 9h and 12h
Sleepiness Karolinska Sleepiness Scale	No Sedation	Sedation at T+6h and 9h
Memory Perceptual Priming Test	No Effect on Memory	Slight Memory Impairment
Addiction ARCI49	No Association with Drug Groups	Association with LSD and Phenobarbital/Alcohol Group

- Safety data from this study indicate that treatment with BNC210 at doses of 300 and 2000 mg was safe and very well tolerated in healthy subjects with no serious events.

BNC210-induced changes in brain activity measured by EEG indicate anxyolysis in the absence of sedation

Bionomics

Drug / EEG activity	δ	γ	α	α1	α2	β	β1	β2	β3
BNC210			↓		↓	↑			↑
Lorazepam	↑	↓	↓	↓	↓	↑	↑	↑	↑

EEG data showed BNC210 related changes in brain activity similar to that of Lorazepam indicative of efficacy as shown by the green circle.

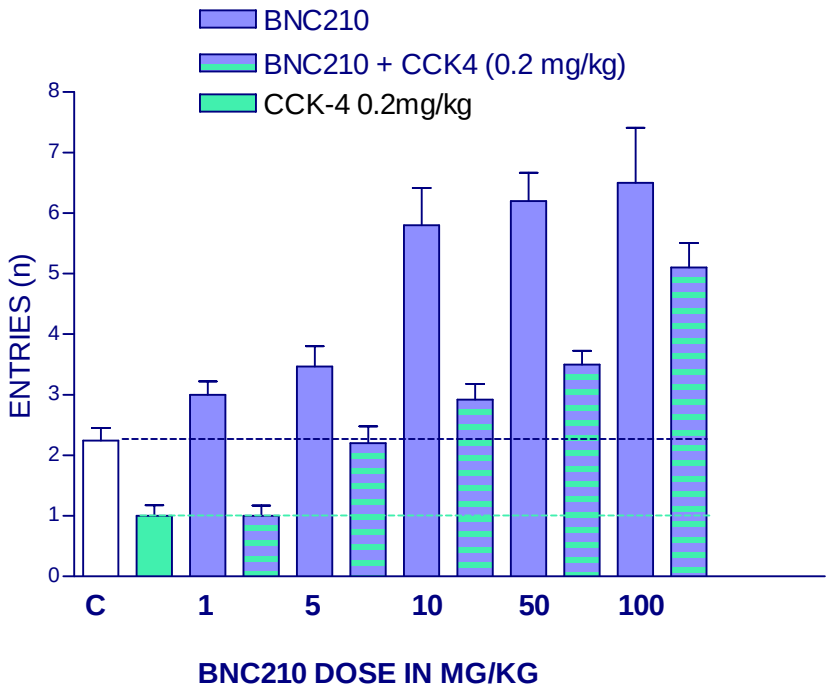
The EEG signature of BNC210 was clearly differentiated from that observed following treatment of subjects with Lorazepam however, particularly in activity associated with sedation (indicated by the red circle).

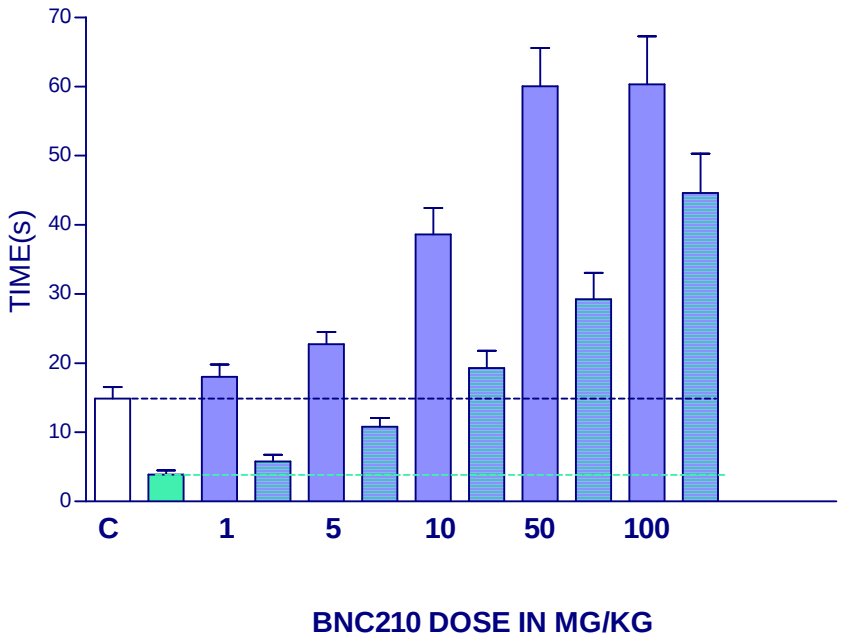
Unlike Lorazepam, BNC210 did not increase activity in the δ region suggesting that BNC210 activity occurs in the absence of sedation.

Preclinical Activity in Rat Model of CCK Challenge Supports Planned Clinical Studies

Bionomics

- BNC210 Reduces CCK-induced Anxiety in Rats in a Dose Dependent Manner





BNC210 administered PO, 60 minutes before testing
CCK 4 administered IP, 30 minutes before testing
n= 10-25 rats

The CCK Challenge is a Randomised, Double Blind, Placebo-Controlled, 2-way Crossover Study

PERIOD 1	**BNC210** *2000mg* **& CCK4**	**OR**	**Placebo & CCK4**
PERIOD 2	**Placebo & CCK4**	**OR**	**BNC210** *2000mg* **& CCK4**

ASSESSMENTS OF SUBJECTS WHO PANICKED:

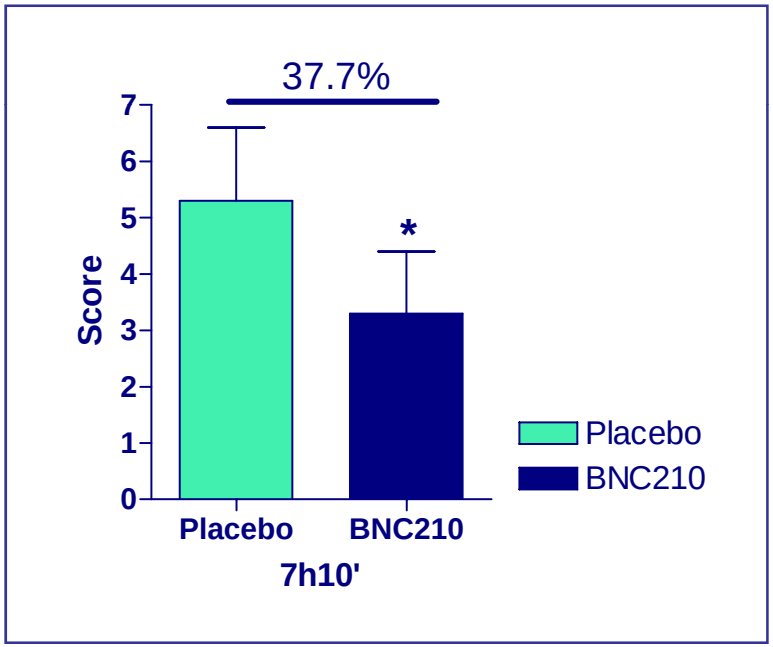
Primary Objective: Panic symptoms - *panic symptom scales (PSS);*
Secondary Objective: Physical symptoms - *blood pressure; heart rate; serum cortisol and ACTH; Anxiety scales; eVAS*

59 subjects enrolled
15 subjects panicked in response to CCK

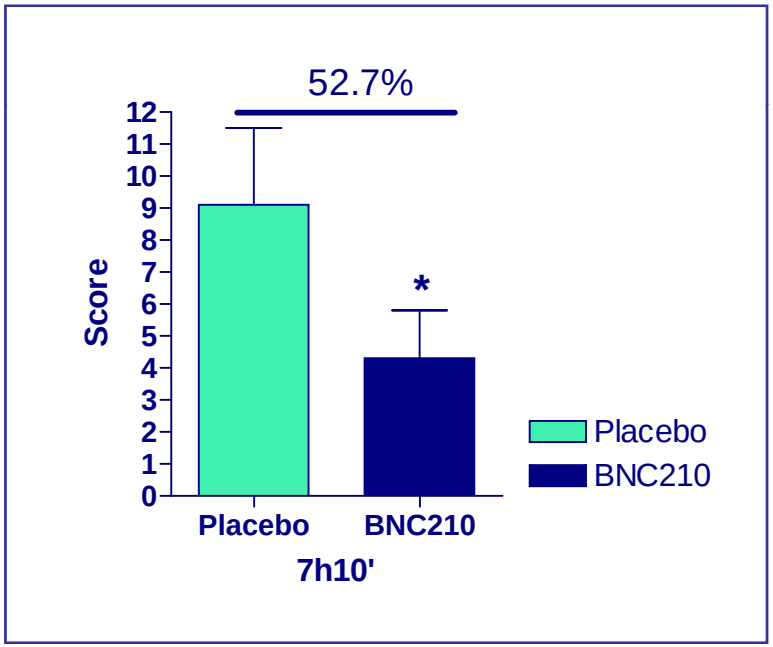
In subjects who panicked in response to CCK 4 BNC210 reduced both the number of symptoms and intensity of panic symptoms

Bionomics

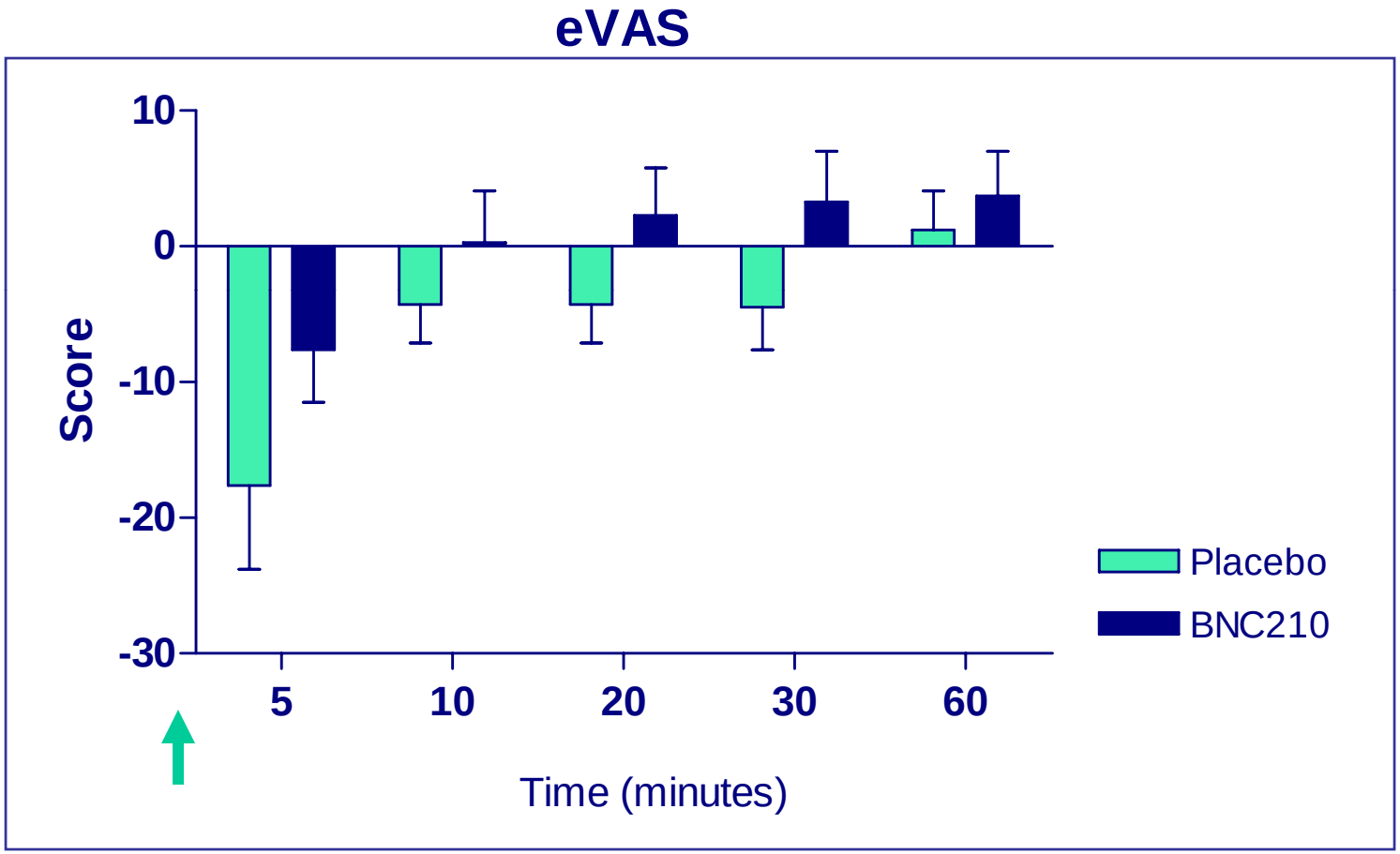
% Reduction in Total Symptom Score



% Reduction in Sum Intensity Score



In panickers BNC210 rapidly restored emotional stability following CCK challenge



Changes from baseline over time

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Intellectual Property

Bionomics files its patent applications worldwide using the Patent Convention Treaty. The table below indicates granted patents only, with prosecution ongoing in other territories.

PATENT	COUNTRY	TITLE	GRANT DATE
BNC105			
527029	New Zealand	Synthesis for the preparation of compounds for screening as potential tubulin binding agents	6 October 2005
2002227786	Australia	Synthesis for the preparation of compounds for screening as potential tubulin binding agents	7 August 2008
556686	New Zealand	Novel tubulin polymerisation inhibitors	13 May 2010
BNC210			
576036	New Zealand	Novel Anxiolytic Compounds	9 February 2011
Kv1.3			
7507839	United States of America	Therapeutic ion channel blocking agents and methods of use thereof	24 March 2009
2003212101	Australia	Therapeutic ion channel blocking agents and methods of use thereof	10 December 2009
2003209828	Australia	Novel chalcone derivatives and uses thereof	14 January 2010
Epilepsy			
701228	Australia	Diagnostic and treatment methods relating to Autosomal Dominant Nocturnal Frontal Lobe Epilepsy (ADNFLE)	6 May 1999
522372	New Zealand	Mutation associated with epilepsy	9 December 2004
522888	New Zealand	Mutation associated with epilepsy	12 May 2005
2001265698	Australia	Mutation associated with epilepsy	9 March 2006
2004200978	Australia	A diagnostic method for epilepsy	6 April 2006
530258	New Zealand	Mutations in ion channels	11 May 2006
7078515	United States of America	Sodium-channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	18 July 2006
526814	New Zealand	Mutations in neuronal gene sodium channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	7 September 2006

Intellectual Property

PATENT	COUNTRY	TITLE	GRANT DATE
Epilepsy			
7157569	United States of America	Mutation associated with epilepsy	2 January 2007
2002318972	Australia	Mutations in ion channels	21 June 2007
1407013	Europe	Mutations in ion channels	12 September 2007
541915	New Zealand	Mutations in neuronal gene sodium-channel alpha-1-subunit and their polypetides and their treatment of generalised epilepsy with febrile seizures plus	13 September 2007
1351968	Europe	Sodium-channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	3 October 2007
7282336	United States of America	Sodium-channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	16 October 2007
2002216826	Australia	Sodium-channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	25 October 2007
2004263548	Australia	Mutations in ion channels	4 January 2008
550702	New Zealand	Mutations in neuronal gene sodium-channel alpha1-subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	15 May 2008
542048	New Zealand	Mutations in ion channels	14 August 2008
542202	New Zealand	Methods for the diagnosis and treatment of epilepsy	12 November 2009
4204317	Japan	Sodium channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	24 October 2008
7667028	United States of America	Compositions and methods for angiogenesis related molecules and treatments	23 February 2010
1852505	Europe	Mutations in ion channels	31 March 2010
7709225	United States of America	Sodium channel alpha1 subunit and their polypeptides and their treatment of generalised epilepsy with febrile seizures plus	4 May 2010
7723027	United States of America	Methods for the diagnosis and treatment of epilepsy	25 May 2010
2007202499	Australia	Mutations in ion channels	3 March 2011

Intellectual Property

PATENT	COUNTRY	TITLE	GRANT DATE
Angiogenesis			
2002328200	Australia	DNA sequences for human angiogenesis genes	17 April 2008
543295	New Zealand	DNA sequences for human angiogenesis genes	14 August 2008
554534	New Zealand	DNA sequences for human angiogenesis genes	12 February 2009
4486815	Japan	DNA sequences for human angiogenesis genes	2 April 2010
531570	New Zealand	DNA sequences for human angiogenesis genes	13 July 2006
GABA			
1292676	Europe	Mutation associated with epilepsy	29 July 2009
545185	New Zealand	Mutations in ion channels	13 August 2009
ALS			
1470818	Europe	Use of piperazine phenothiazine derivatives, or a pharmaceutically acceptable salt or ester thereof, in the manufacture or a medicament with neuroprotector and/or neurotrophic effects on CNS and/or PNS	26 July 2006
1066741	Hong Kong	Use of piperazine phenothiazine derivatives, or a pharmaceutically acceptable salt or ester thereof, in the manufacture or a medicament with neuroprotector and/or neurotrophic effects on CNS and/or PNS	27 October 2006
Breast Cancer			
7083927	United States of America	Novel gene BNO1 mapping to chromosome 16q24:3 gene	1 August 2006
7556920	United States of America	Novel gene BNO1 mapping to chromosome 16q24:3 gene	7 July 2009
Parkinsons			
2822236	France	Method for determining the therapeutic efficacy of a medicament against Parkinson's Disease and/or Parkinson Syndrome using an Fri/Fri Mouse as a model	6 June 2003

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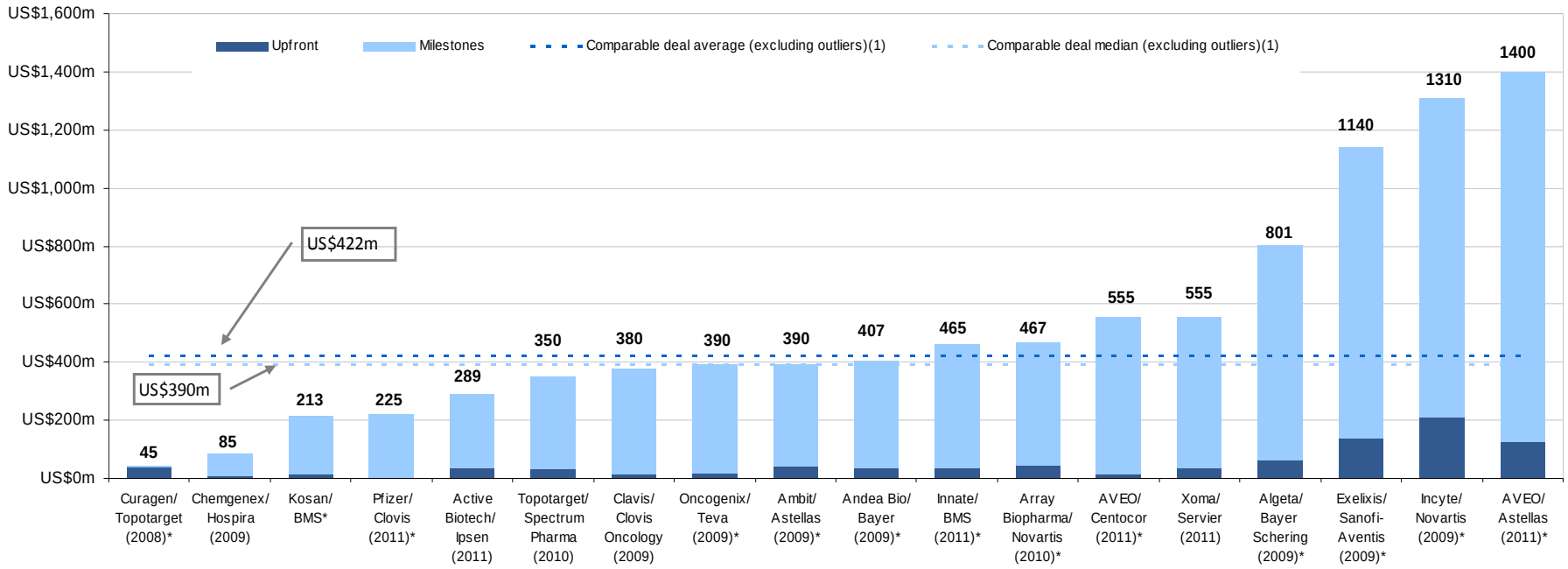
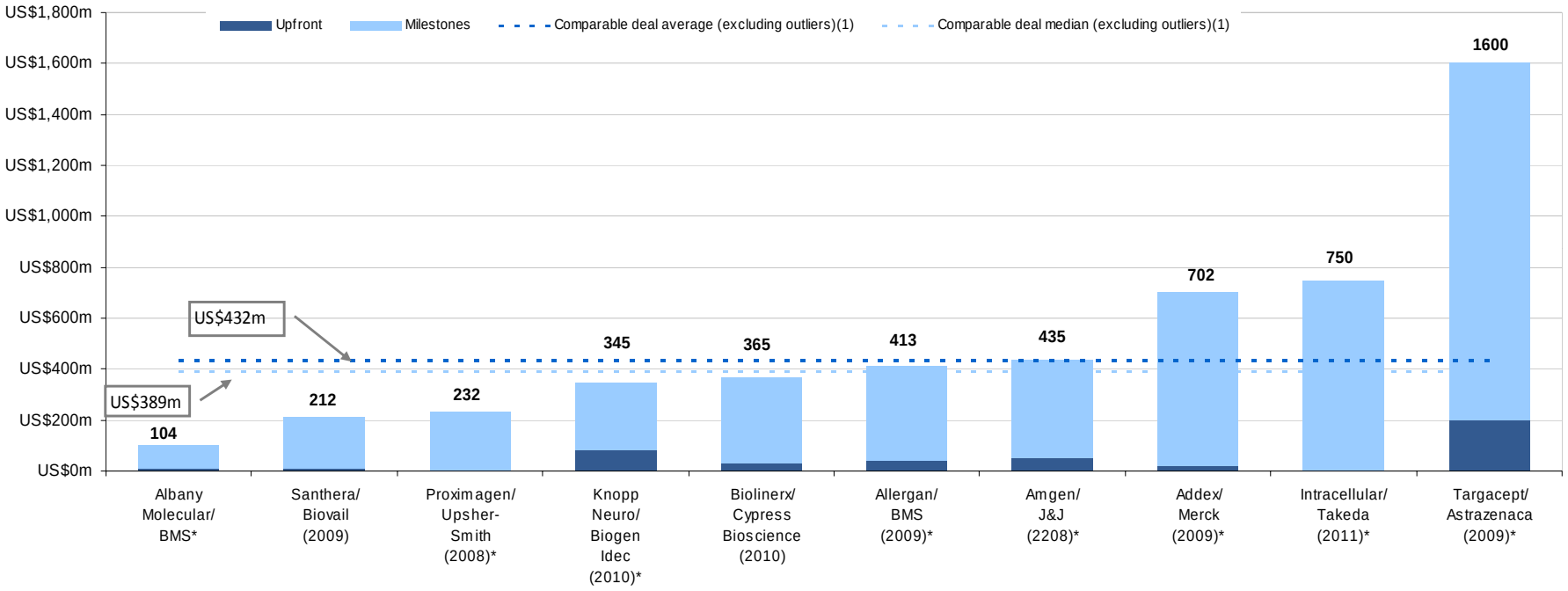
Precedent Oncology Licensing Transactions



Source: Edison Research reports, Linwar Research reports, Bionomics management sources, Greenhill Caliburn analysis
* Indicates worldwide deal
1. Average and median calculations exclude significant outliers, namely Curagen/Topotarget, Chemgenex/Hospira, Exelixis/Sanofi-Aventis, Incyte/Novartis and AVEO/Astellas

Precedent CNS Licensing Transactions



Source: Linwar Research reports, Bionomics management sources, Greenhill Caliburn analysis
* Indicates worldwide deal
1. Average and median calculations exclude significant outliers, namely Albany Molecular/BMS and Targacept/Astra Zenaca

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CVs of Executive Team

DR DEBORAH RATHJEN **CEO & MANAGING DIRECTOR**	A seasoned biotech executive of almost 20 years, Dr Deborah Rathjen joined Bionomics in June 2000 from Peptech Limited, where she was Manager of Business Development and Licensing. Dr Rathjen was a co-inventor of Peptech's TNF technology and leader of the company's successful defence of its key TNF patents against a legal challenge by BASF, providing Peptech with a strong commercial basis for licensing negotiations with BASF, Centocor and other companies with anti-TNF products. This success saw the company grow from a A$17m market capitalisation to a A$500m market capitalisation. Dr Rathjen has significant technology and product licensing experience. Dr Rathjen is Chairperson of the AusBiotech Board, and is a former member of the Prime Minister's Science Engineering and Innovation Council. In 2004 Dr Rathjen was awarded the AusBiotech President's Medal for her significant contribution to the Australian biotechnology industry, in 2006 she received a Distinguished Alumni Award from Flinders University, in 2009 the BioSingapore Asia Pacific Woman Entrepreneur of the Year, and in 2010 Bio Innovation SA Industry Leader Award.
DR EMILE ANDRIAMBELOSON **HEAD OF RESEARCH AT NEUROFIT**	Dr Emile Andriambeloson joined Neurofit in 2002 from Novartis Pharma and has played an important role in the development of Neurofit's business. In 2005 Dr Andriambeloson became the Head of Research at Neurofit and is the key interface with Neurofit's international customer base as well as Bionomics' CNS programs. Dr Andriambeloson has a PhD from the University of Strasbourg in France and is recognised for his expertise in pharmacology. He is the author of 18 articles published in highly regarded peer reviewed scientific journals. Dr Andriambeloson's previous positions include Novartis Pharma (Basel, Switzerland), Heart Research Institute (Sydney, Australia) and University of New South Wales (Sydney, Australia).
DR ANDREW HARVEY **VICE PRESIDENT DRUG DISCOVERY**	Dr Andrew Harvey joined the chemistry group at Bionomics in 2007 and has led the group in the Multiple Sclerosis collaboration with European pharmaceutical company, Merck Serono, since the collaboration began in June 2008. He played a leading scientific role in the partnering discussions with Merck Serono and has inventorship on each of Bionomics' Multiple Sclerosis patents. In 2007, Dr Harvey was instrumental in the establishment of the new chemistry facilities at the Bionomics headquarters in Adelaide. During his prior employment at The Walter and Eliza Hall Institute for Medical Research, Dr Harvey was awarded a National Health and Medical Research Council Industry Fellowship for his research in identifying new treatments for Multiple Sclerosis. He holds a PhD and a BSc (Honours) from Canterbury University in New Zealand.
DR GABRIEL KREMMIDIOTIS **VICE PRESIDENT RESEARCH AND DEVELOPMENT**	Molecular geneticist and immunologist Dr Gabriel Kremmidiotis joined Bionomics as Head of Bioinformatics in January 2002 and his role has since expanded to Vice President Research & Development. Formerly Senior Medical Scientist at the Department of Cytogenetics & Molecular Genetics at the Women's & Children's Hospital in Adelaide, Dr Kremmidiotis has several patent inventions on breast cancer tumour suppressor genes, including Bionomics' BNO64 and BNO1 genes as well as other tumour suppressor genes. Dr Kremmidiotis has a PhD and a Bachelor of Science (Honours) from Flinders University and a Bachelor of Science from The University of Melbourne. He has published research findings in 23 internationally-recognised scientific publications including Cell, Human Molecular Genetics and American Journal of Human Genetics, and is a member of the Human Genetics Society of Australasia.

CVs of Scientific Advisory Board

DR ERROL DE SOUZA	Dr Errol De Souza is an internationally recognised leader in CNS research and development. He is the former President and CEO of leading US biotech companies Synaptic Pharmaceutical Corporation and Archemix Corporation and is currently President and CEO of the US company Biodel. Prior to these roles, Dr De Souza held senior management positions within Aventis (NYSE:AVE) and its predecessor Hoechst Marion Roussel Pharmaceuticals, Inc. Most recently, Dr De Souza was Senior Vice President and Site Head, US Drug Innovation and Approval (R&D), at Aventis where he was responsible for the discovery and development of drug candidates through Phase IIa clinical trials for CNS and inflammatory disorders and was a co-founder and former Chief Scientific Officer of Neurocrine Biosciences. Dr De Souza is also currently an Adjunct Professor at the Centre for Molecular and Behavioural Neuroscience at Rutgers University in New Jersey and has served on multiple Editorial Boards, NIH Committees as well as on the Board of Directors of several companies.
PROFESSOR PAUL FITZGERALD	Professor Paul Fitzgerald is Professor of Psychiatry, Deputy Director and Consultant Psychiatrist at Alfred Psychiatry Research Centre, a joint research centre of Monash University and the Alfred Hospital in Melbourne. He is a qualified psychiatrist, has a Masters of Psychological Medicine and research PhD. He runs a substantive research program utilising brain stimulation and neuroimaging techniques including transcranial magnetic stimulation, functional and structural MRI, EEG and new infrared spectroscopy. The program has focussed on the conduct of investigative studies of brain function / dysfunction as well as the conduct of a variety of novel clinical trials in Mood, Anxiety, Psychotic and Developmental Disorders. He has published over 90 papers and received grant funding from the NHMRC and a number of US based organisations including a NHMRC Practitioner Fellowship. He is on a variety of local and international committees including the scientific and review committees of Neuroscience Victoria.
DR TIM HARRIS	Dr Tim Harris is currently Snr VP Translational Medicine, Biogen-Idec, fmr Director of the Advanced Technology Program at SAIC Frederick. From March 2005 to September 2006 Dr Harris was President and CEO of Novasite Pharmaceuticals in San Diego. Prior to joining Novasite, Dr Harris founded SGX Pharmaceuticals (formerly Structural Genomix) where he built the company to >130 employees, raised >$85M, and generated >$20 million pa in revenue over a six year tenure as CEO. Before founding SGX, Dr Harris was SVP, R&D at Sequana/Axys. Dr Harris started his industry career at Celltech (now UCB Pharma) in the United Kingdom as a Senior Molecular Biologist and subsequently spent five years at Glaxo Group Research as Director of Biotechnology. He received a PhD in Virology and a BSc with honors in Biochemistry from the University of Birmingham, United Kingdom.
DR ANN HAYES	Dr Ann Hayes worked for 22 years for GlaxoWellcome, initially in research, with particular expertise in the areas of CNS and pain. Before the GSK merger, she was a Director in Drug Discovery, and was involved in determining long-term Discovery strategy, in portfolio management and in discovery project management. Ann left GSK in 2001 and set up a business as an independent pharmaceutical consultant. In this capacity she has co-founded three companies, Ionix Pharmaceuticals which has been bought by Vernalis, Therasci which has been bought by CeNeS, and Theradeas. Ann is a non-executive director for Curidium plc and Plethora Solutions plc, and a member of the advisory boards for CeNeS and Lectus. She has also held non-executive director positions at Therasci, Ionix and Sirus (which was sold to Arakis). She currently consults regularly for CeNes and Shire, as well as doing ad hoc consulting for a number of small companies and VCs.

CVs of Scientific Advisory Board

MR RICHARD MORGAN	Mr Richard Morgan has over 25 years experience in pharmaceutical research and development, many as an R&D executive at GlaxoWellcome where he was International Head of Toxicology and Preclinical Outsourcing. Over his career he has been responsible for the preclinical safety evaluation of over 100 new chemical entities (NCE's), covering all major therapeutic areas. Products he has contributed to include Lamictal (Epilepsy), Zomig (Migraine), Malarone (PCP/Malaria), Atracurium (NMB), Wellbutrin (Anti-depressant), Zovirax, Zidovudine, Lamivudine (Anti-Virals) and Exosurf (Infant RDS). Richard operates his own consultancy company (R&B HealthCare Ltd), providing advice on drug development and toxicology. He is a member of the Board of Cogstate Ltd and Advisory Boards of a number of Australian biotech companies.
DR CHRISTOPHER J SWEENEY	Dr Christopher J Sweeney received his medical degree from the University of Adelaide, South Australia in 1992, and completed an internship at the Royal Adelaide Hospital. From 1994 to 1997, Dr Sweeney was an Internal Medicine resident at Gundersen Lutheran Medical Center, La Crosse, Wisconsin, and from 1997 to 2000 he was a Fellow in Hematology / Oncology at Indiana University Medical Center. Dr Sweeney is certified by the American Board of Internal Medicine in Internal Medicine and Medical Oncology. He is a member of several professional societies, including the American Society of Clinical Oncology, Eastern Cooperative Oncology Group and American Association for Cancer Research. He has authored and co-authored more than 60 peer reviewed articles, as well as several monographs and book chapters. He has focused his academic career on cancer drug development by performing (1) phase I dose escalation trials with pharmacokinetic and pharmacodynamic endpoints including multiple anti-angiogenic drugs (2) phase I trials of new chemotherapeutics in patients with renal or liver dysfunction (3) pharmacogenetic and biomarker discovery studies (4) trials of targeted therapies with a focus on bladder and prostate cancer and (5) drug discovery in the laboratory. Dr Sweeney has served as the Associate Director for Clinical Research for the NCI-designated, Indiana University Cancer Center and the Co-Leader of the Experimental Developmental Therapeutics Program of the NCI designated Indiana University Cancer Center. In 2005 Dr Sweeney was elected Chairman of the Hoosier Oncology Group. Dr Sweeney has served on the Program Committee and the Cancer Education Committee of the American Society of Clinical Oncology and is on the Editorial Board for ASCOs "Journal of Clinical Oncology". He has peer reviewed funding from the PhRMA Foundation (Faculty Development Award), the National Institutes of Health and the Department of Defense. He joined the RAHCC and Director of Clinical Trials in January 2008.