



***Biotech Showcase
10 January 2011***

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Factors Affecting Future Performance

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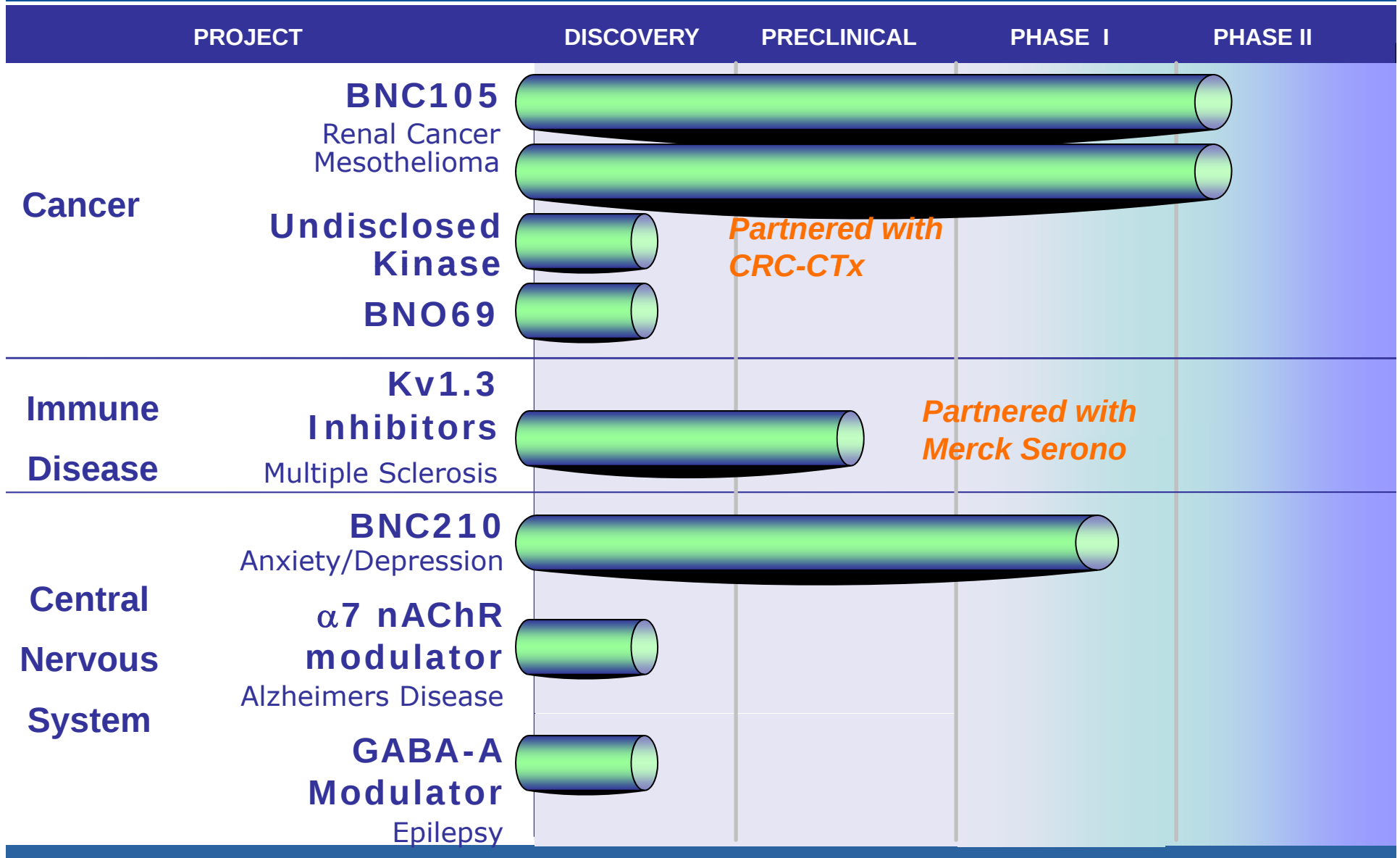
Company Overview (ASX:BNO)



Bionomics is a leading international drug discovery and development company

Exciting Drug Pipeline	• Two potential blockbuster drugs in clinical trials
Proven Technology Platforms	• Proprietary drug discovery platforms to support future pipeline and deals - MultiCore[®], Angene[®], ionX[®]
Strong Commercial Deals	• Partnership with Merck Serono – R&D fully funded, BNO retain upside, US\$47M milestones per compound +royalty
Operations in Australia and Europe	• Principal research facility 2500m² state-of-the-art laboratories (Adelaide) • Profitable contract services subsidiary (Strasbourg)
Strong Balance Sheet	• Cash runway of 18 months on current burn rate
Solid Shareholder Base	• ~\$100M market cap • Top 20 shareholders hold ~72%

Pipeline



Capital Structure & Financials



ASX (BNO) listed: 1999

Shareholding:
2,955 shareholders (8.10)
Start-up Australia Ventures 27.8%

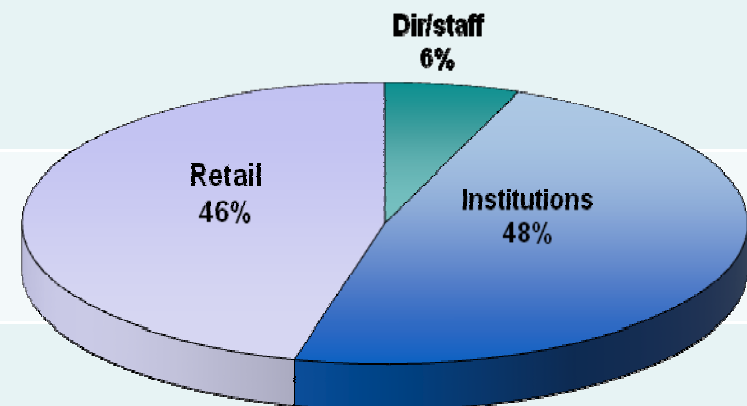
Market Capitalization:
\$102 million (6.1.11)

Average Daily Volume:
193,111 shares

Shares on Issue:
318,454,279

Share Price = 32 cents (6.1.11)
52 wk high = 39 cents
52 wk low = 24 cents

Cash Position:
\$12.6M (30.6.10)



Current Tender for Major Stake



- Start-up Australia Ventures has commenced a tender process to sell its 27.8% stake.
- A successful single tenderer in the Start-up process would be required to make a follow-on bid for Bionomics.
- Bionomics is not involved in the tender process and has appointed Greenhill Caliburn as its advisers.
- Bionomics believes it has a strong independent future.
- Remains focussed on executing its existing partnership strategy - encourages parties with interest to work co-operatively with it.

Lead Product: BNC105

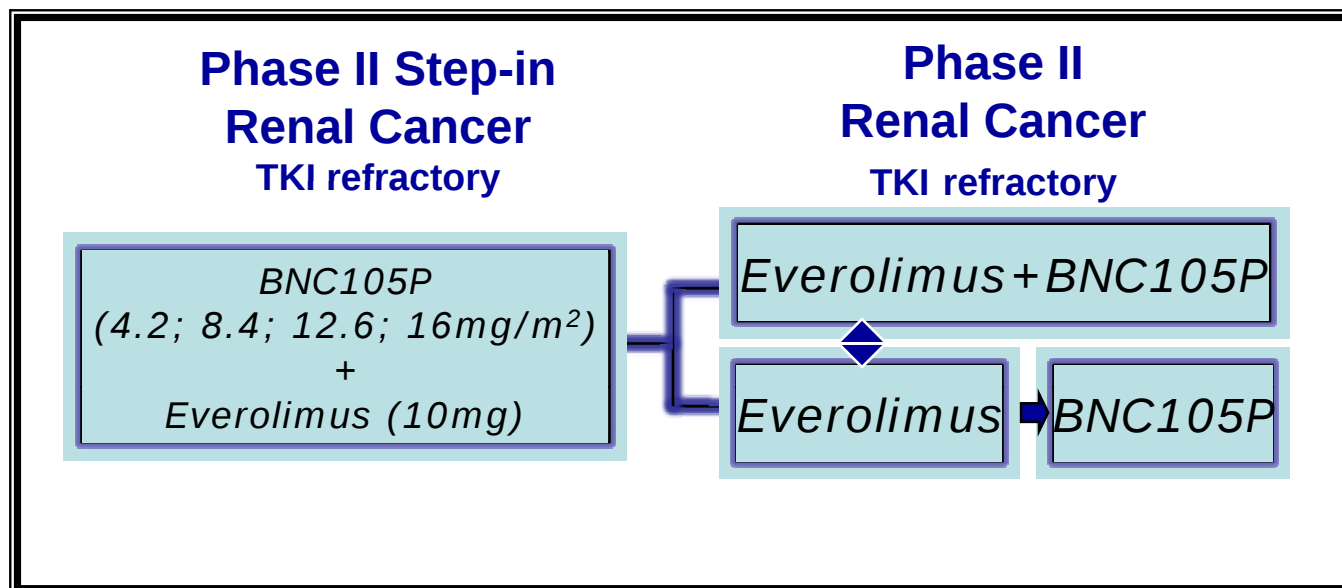


- Vascular disrupting agent (VDA), rapidly shuts down existing and new tumor blood vessels, no effect on normal blood vessels
- Potential to treat all solid tumor types
 - Commercial potential comparable to Avastin (Genentech/Roche); global sales >US\$5 billion in 2009
- Currently in Phase II trials for two cancer indications:
 - Initial clinical trial indications provide fast track to market attractive to future licensees
 - Renal cell cancer (152 patients, US)
 - Interim data expected Q1, 2011, final results due in 2012
 - Standard treatments: Sutent (Pfizer); market leader; global sales of US\$964M in 2009 and Nexavar (Bayer and Onyx); global sales of US\$811.3M in 2009; expected to sell US\$1.04 billion in 2010
 - Mesothelioma (60 patients, Australia)
 - Associated with exposure to asbestos
 - Standard treatment: Alimta (Lilly); global sales of US\$1.7 billion in 2009
 - Interim data expected H1, 2011, final results due in 2012

Clinical Trial in Renal Cancer



Phase I/II study of BNC105 in combination with Everolimus (Afinitor) or following Everolimus for progressive metastatic clear cell renal cell carcinoma following prior tyrosine kinase inhibitors



The Hoosier Oncology Group (HOG)

PI: Dr Tom Hutson, Baylor Medical Center, Sammons Cancer Center, Dallas

Phase II Trial in Patients with Mesothelioma



STUDY TITLE:

Single Arm Phase II Study of the Novel Tubulin Polymerisation Inhibitor BNC105 as Second Line Treatment for Malignant Pleural Mesothelioma

Australasian Lung Cancer Trials Group (ALTG), NH&MRC Cancer Trials Centre (Sydney)

PI: Dr Anna Nowak, Sir Charles Gairdner Hospital, Perth, Australia

PRIMARY OBJECTIVES:

Determine the response rate as measured by modified RECIST criteria in patients with MPM receiving BNC105 as second line treatment after previous treatment with combination platinum/pemetrexed chemotherapy.

Currently there is no accepted standard for 2nd Line therapy following Pemetrexed-based 1st line therapy

SECONDARY OBJECTIVES:

To determine the effect of second line treatment of MPM with BNC105 on:

Progression free survival (PFS); 6 month PFS; Time to treatment failure (TTF); Overall survival; Symptom control - quality of life; Lung function

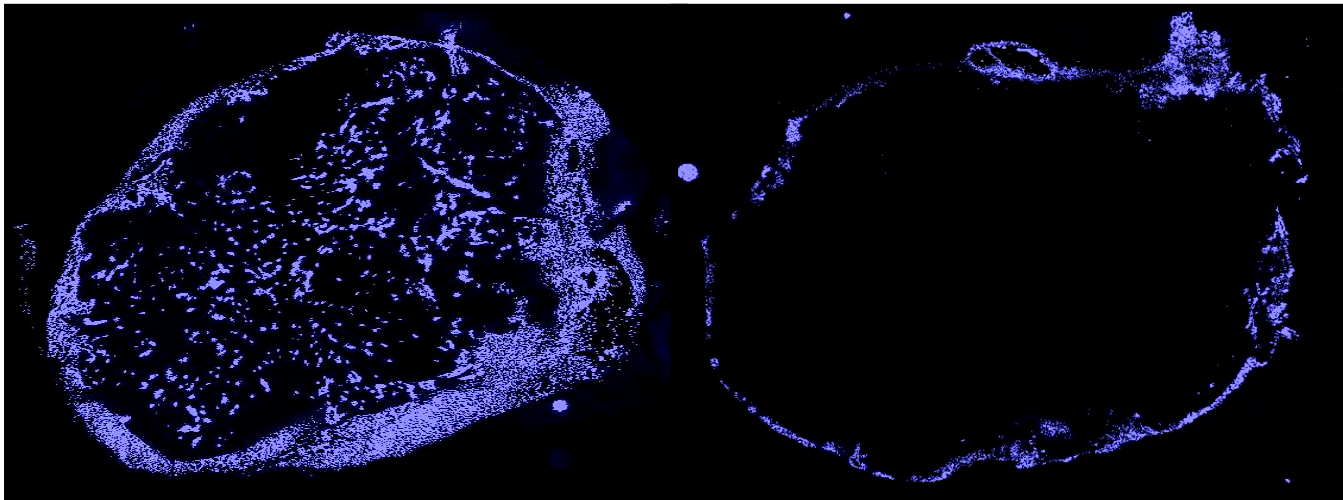
Further characterize toxicity and adverse effects of second line treatment with BNC105

BNC105: Competitive Advantages



- Dual action - ***selectivity*** for tumor blood vessels combined with direct cytotoxic action on tumor cells; less liable to resistance ➞
Multiple points of attack, no escape
- Highly ***selective and rapid*** vascular disruption traps and concentrates BNC105 within tumor for greater duration of action ➞
Potent anti-tumor 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 tumor treatment regimes***

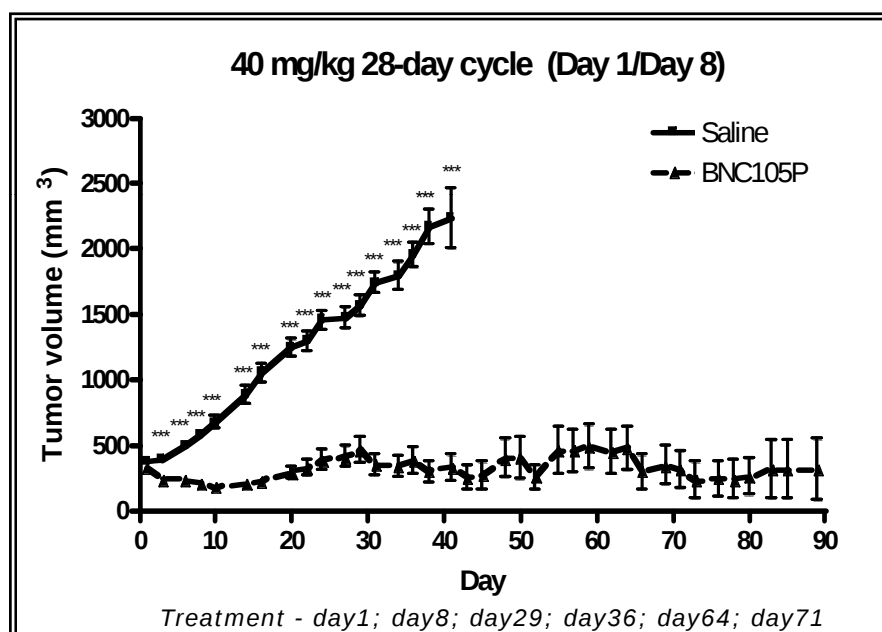
BNC105 Rapidly and Selectively Shuts Down Tumor Blood Vessels



Untreated

BNC105 treated

BNC105 Shows Single Agent Efficacy in Xenograft Models

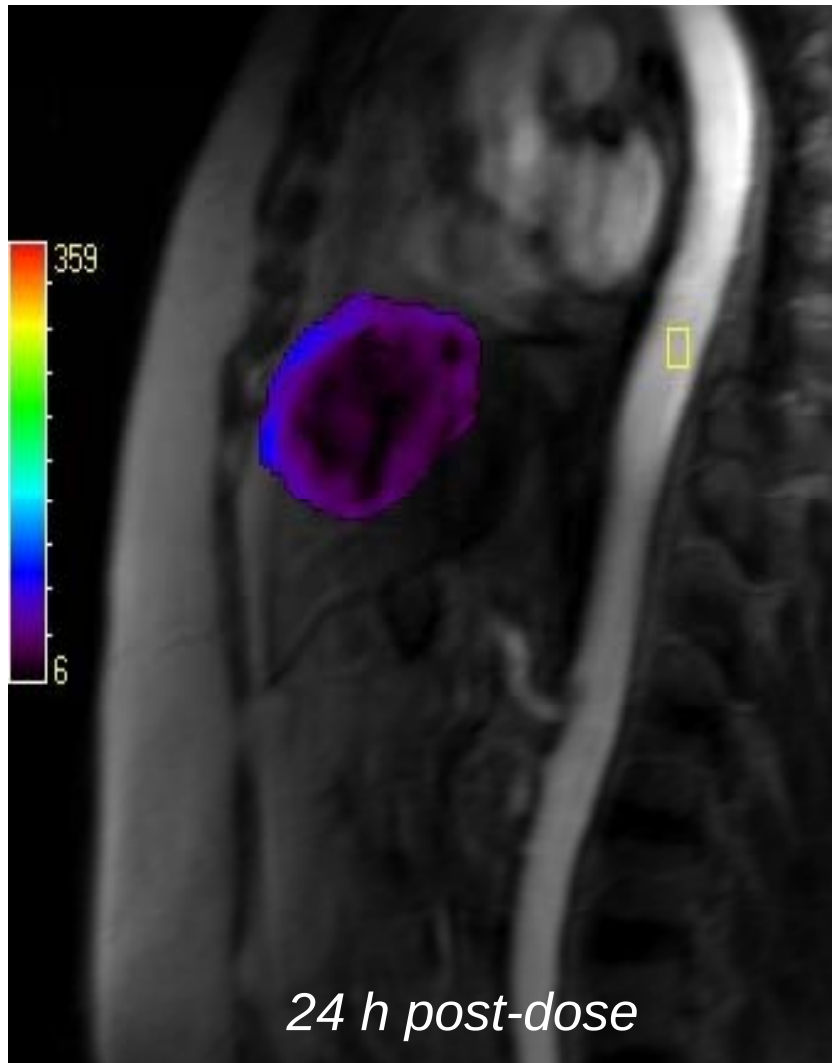


Phase I Clinical Trial: Conducted in Australia under IND; Confirmed Safety, Evidence of On-target, VDA and Anti-tumor Activity

Bionomics



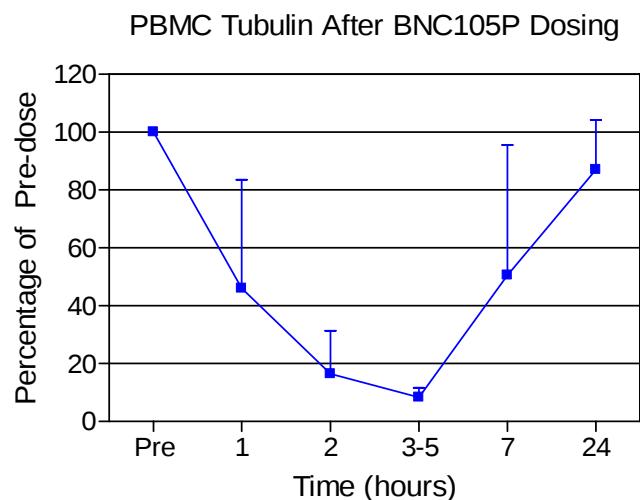
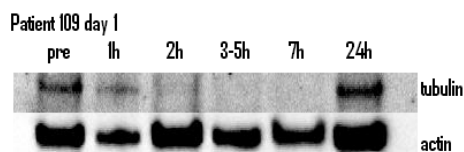
DCE-MRI - liver metastasis



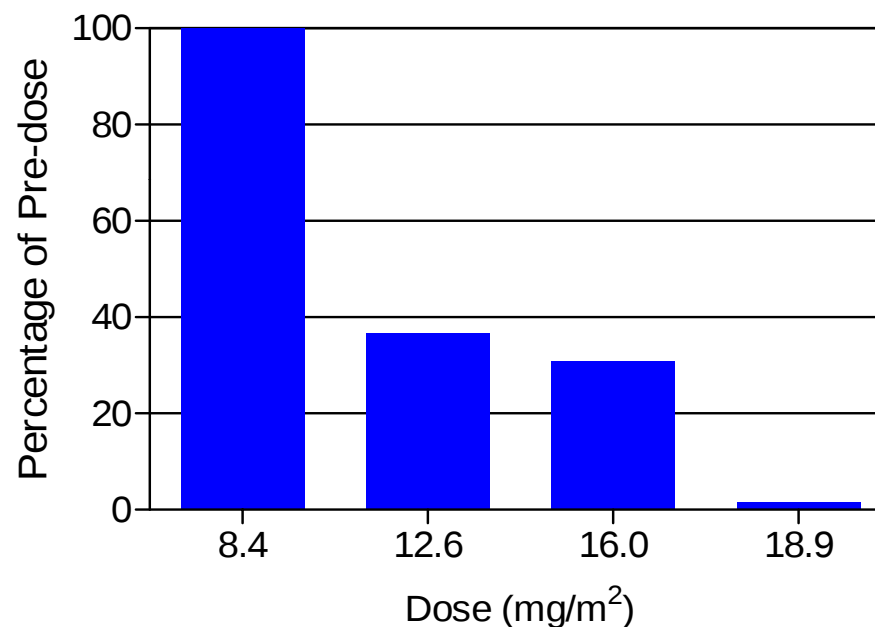
Key Findings:

- Phase II dose level identified - 16 mg/m²
 - 2 of 6 patients treated at this dose showed clinical benefit
 - No cardiovascular side-effects
- DCE-MRI indicates anti-vascular activity
- Tubulin polymerization status demonstrates "on target" activity
- BNC105 exposure correlates with activity in xenograft models

BNC105 Exhibits “On Target” Activity in Patient Samples



Polymerized tubulin levels in PBMC at 3-5 hour post dose



No other VDAs have demonstrated “on target” activity in clinical samples

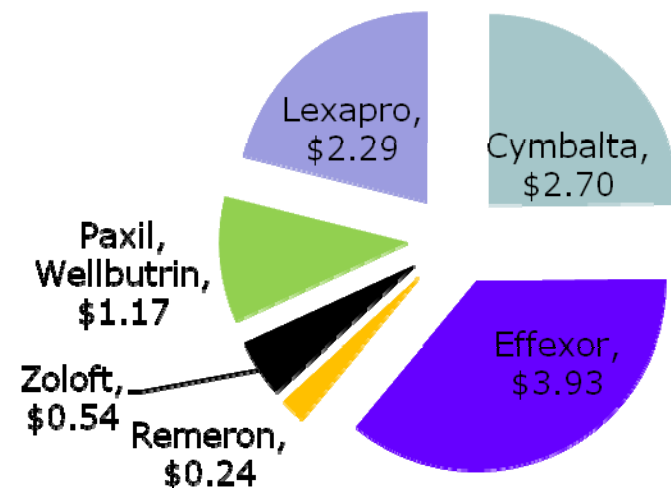
BNC210: A “next generation” compound under development for anxiety and depression



- Anxiety drugs have been amongst the biggest blockbusters e.g. Valium, Prozac (US\$15 billion pa worldwide)
- Anxiety Disorders affect 40 million Americans each year
- Most anxiety drugs have major side-effects
 - Market need for an effective, safe, fast acting, non-sedating, non-addictive drug

- Depression affects an estimated 121 million people worldwide
- Anti-depressant drug market sales almost US\$11 billion in 2008

Top selling anti-depressants (US\$B, 2008); several also used for the treatment of anxiety:



BNC210: Meets Patient Needs in Anxiety and Depression



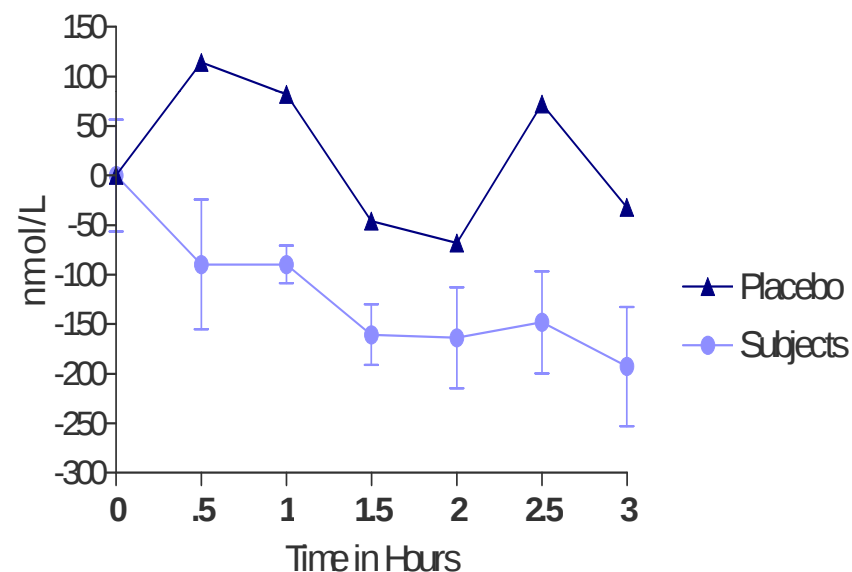
DRUG	No Sedation	No Withdrawal Syndrome	No Memory Impairment	Fast Acting	No Drug / Drug Interactions	Once-a-Day Dosing
BNC210	✓	✓	✓	✓	✓	✓
Valium	X	X	X	✓	✓	✓
Prozac	✓	X	✓	X	X	✓
Buspar	X	✓	✓	X	✓	X

BNC210: Two Successful Phase Ia Clinical Trials Completed



- BNC210 safe and well tolerated, no clinically significant side-effects eg no sedation or memory loss
- BNC210 achieved blood levels in excess of that required for efficacy in animal trials
- BNC210 treated subjects showed lower stress hormone (cortisol) levels

BNC210 reduced stress hormone levels



European Phase Ib Trials: Initiated October 2010; Data Anticipated Q1, CY 2011



Trial 1: Evaluation of the effect of BNC210 on CCK-4 induced panic symptoms in healthy, young male subjects.

Primary endpoint: Panic Symptom Scale

Opportunity for early demonstration of benefit in the treatment of panic attacks

Trial 2: Comparison of BNC210 with Lorazepam, a drug closely related to Valium.

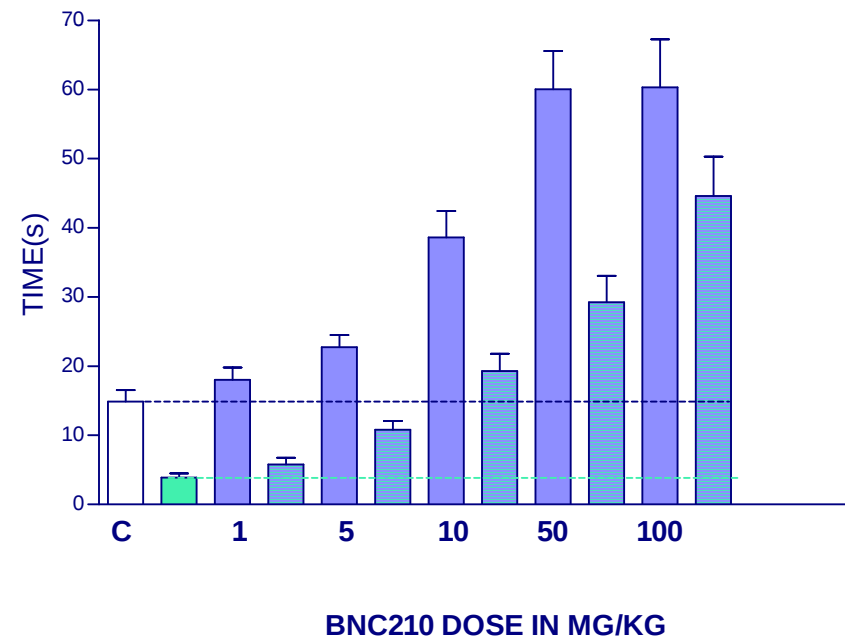
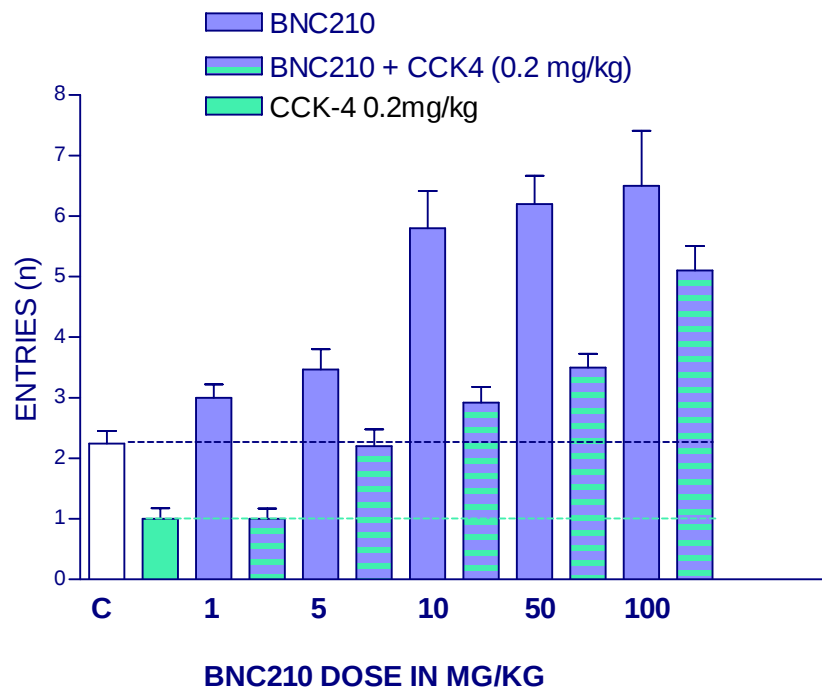
Primary endpoint: attention measured by the critical fusion threshold and multiple choice reaction time

Differentiation from marketed drugs used to treat anxiety

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



- 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

Panic Attacks: An Important Segment of the Anxiety Market



- A serious health problem:
 - Approximately 20% of adult Americans, or about 60 million people, will suffer from panic attacks at some point in their lives.
 - The peak age at which people have their first panic attack is 15-19 years.
- Panic attacks may be sudden, often unexpected, extremely disabling.
- Xanax, a benzodiazepine like Valium, was the first drug to be approved for the treatment of panic:
 - Most prescribed psychiatric drug in the US
 - In 2009, 1 prescription for Xanax was issued every second in the US

BNO Outlook: Upcoming Major Milestones in Clinical Programs



Milestone	Timing
BNC105	
Initial Phase II clinical data - renal	Q1/2011
Interim Phase II clinical data - mesothelioma	H1/2011
Clinical data ASCO, AACR	Q2/2011
BNC210	
Initiate Phase Ib clinical trials	Q3/2010 ✓
New BNC210 data report Neuroscience 2010	Q4/2010 ✓
Complete Phase Ib clinical trials	Q1/2011

Kv1.3 Blockers: A New, Safer Approach to MS Treatment



- BNO partnered 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).
 - Utilises MultiCore® chemistry and ionX® platforms. Fully funded by Merck Serono.
 - 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 MS drugs world wide was >US\$7 billion in 2009; 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 MS drug which is:
 - Highly effective with fewer side effects
 - Orally active (not injected)



$\alpha 7$ Nicotinic Acetyl Choline Receptor Positive Allosteric Modulators (PAM)



- Market opportunity includes many 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

- $\alpha 7$ 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^{++}

Bionomics Investment Proposition



- BNC105 – the leading VDA, near term interim data from ongoing Phase II trials in renal cancer and mesothelioma.
- BNC210 – offers well differentiated, new approach for the treatment of anxiety disorders and depression, Phase Ib clinical data in Q1, 2011.
- Major partnership with Merck Serono in MS.
- Discovery programs in oncology, CNS and inflammation supported by proprietary chemistry and drug discovery platforms.
- Sale of stock by largest shareholder in train through tender process – presents an opportunity to benefit from the release of clinical data.
- Well funded company, experienced management team, quality Board and SAB.

Bionomics

A leading international drug discovery and development company:

- *innovative small molecule therapeutics for large markets with unmet needs;*
- *longevity through proprietary platforms that build multiple pipeline and licensing opportunities*

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