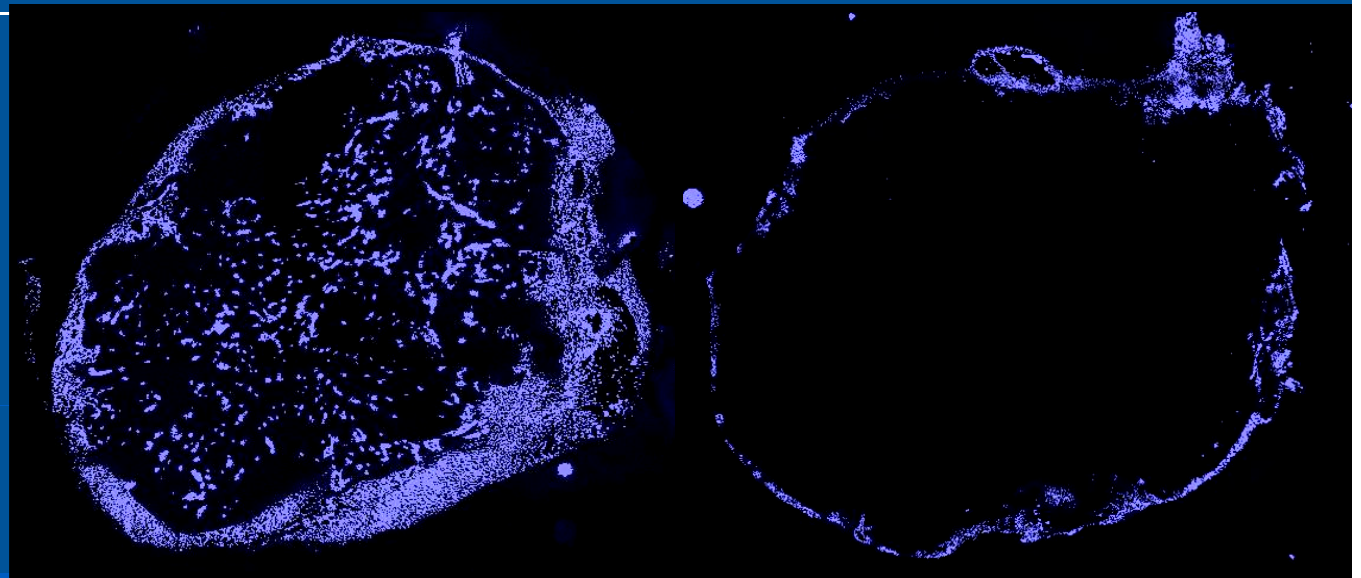




*Corporate Presentation  
2010*



# 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.

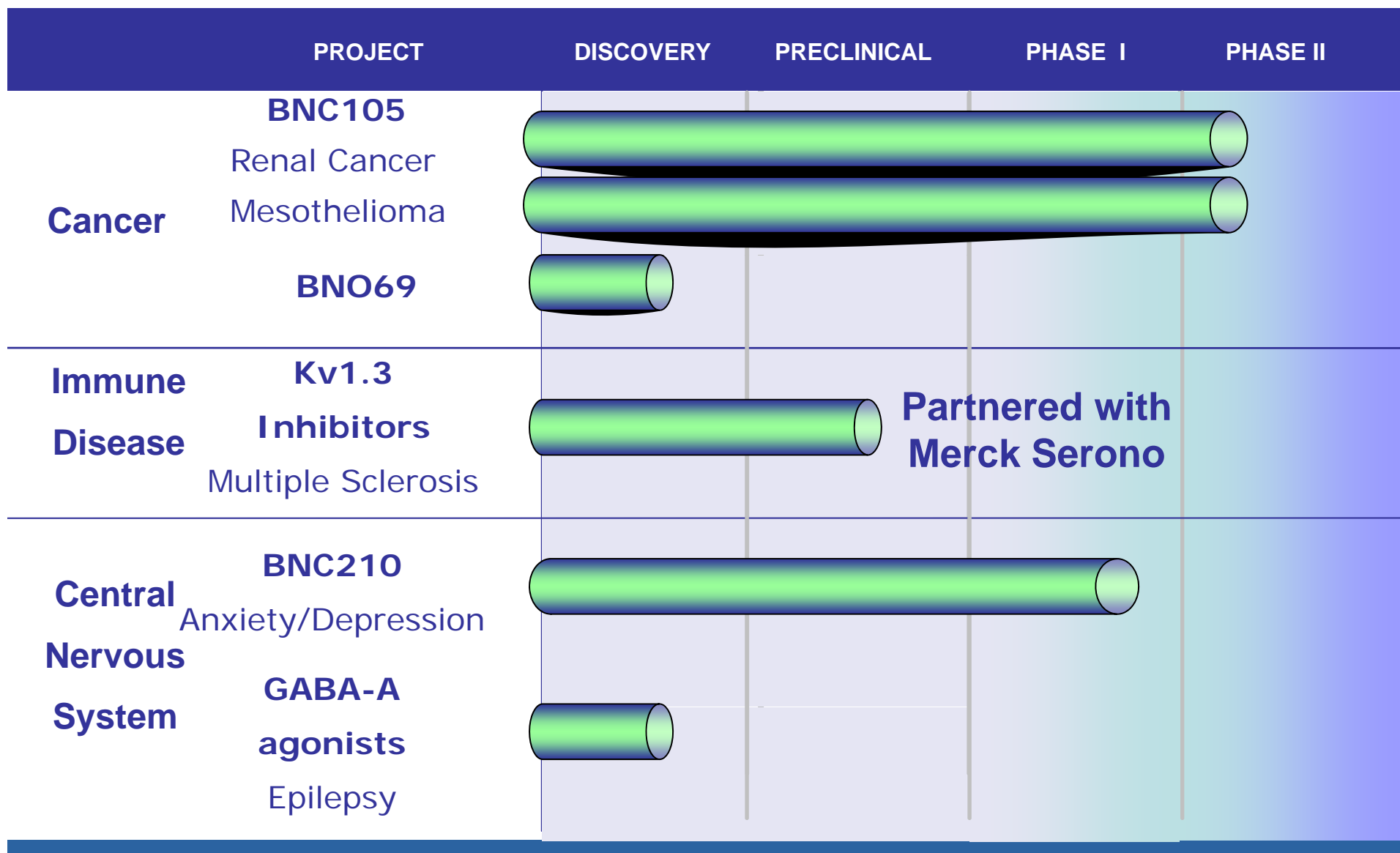
Subject to the requirements of any applicable legislation or the listing rules of any stock exchange on which our securities are quoted, we disclaim any intention or obligation to update any forward-looking statements as a result of developments occurring after the date of this presentation.

# Corporate Overview

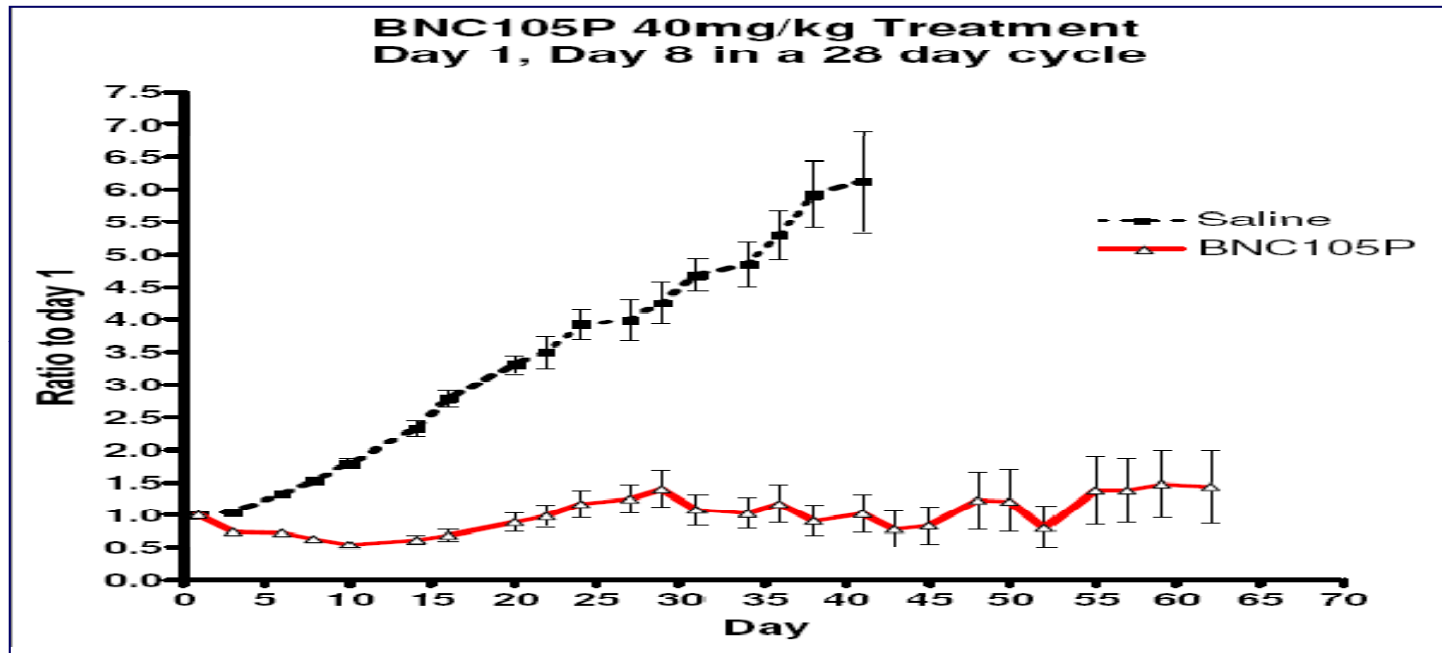


- Developing differentiated therapies to serve large-markets with unmet needs:
  - Therapeutic areas – Cancer (**Phase II**), Anxiety/Depression (**Phase I**), Multiple Sclerosis, Epilepsy
- Partnership with Merck Serono (multiple sclerosis) -up to US\$47M per compound + royalties, R&D fully funded (Multiple Sclerosis)
- Proprietary technology platforms - MultiCore® chemistry, Angene® for cancer drug discovery and ionX® for CNS drug discovery
- Capital raising Q4,2009 – cash for 2 years based on current projected burn rate
- Based in Adelaide, Australia with European subsidiary in Strasbourg
- Publicly listed, ASX ticker: BNO – Market Cap \$100 million, 70% institutional ownership

# Bionomics' Pipeline



# BNC105 displays potent efficacy in animal models



# BNC105 Competitive Advantages & Phase I Clinical Data



- Most potent vascular disrupting agent (VDA) -shuts down cancer blood vessels -does not shut down normal blood vessels
- Dual action - directly cytotoxic for tumour cells as well as VDA
- Vascular disruption traps and concentrates BNC105 within tumour – “lock-in”
- Enhances effectiveness of radiation treatment, cytotoxic chemotherapy eg cisplatin and biological agents such as Avastin®
- June 2008 BNC105 voted Top 5 new cancer drugs entering Phase I by *Thompson Pharma*
- Multicentre Phase I trial commenced February 2008 (Australia) under Investigational New Drug (IND) from the Federal Drug Administration (FDA)
- Aims of trial:
  - Evaluate safety of BNC105 in advanced cancer
  - To identify Phase II dose level, announced July 2009
- Trial data indicates anti-tumour activity:
  - Evidence of VDA activity confirmed by tumour imaging
  - Stable disease (cancer progression halted) – mesothelioma (asbestos exposure) and renal (kidney) cell cancer
  - No QTc prolongation which is a side-effect of competing molecules
  - Data suggests BNC105 has >10 fold therapeutic window in cancer patients compared to leading competitor

▶▶▶ **Strategy to Partner BNC105 following Phase II**

BNC105 is commencing Phase II clinical trials in renal cell carcinoma (US) and mesothelioma (Australia) – interim data projected end 2010



Therapeutic Area	Australia	USA	Competing VDA
Head & Neck	√	√	
Ovarian	√	√	ASA404, CA4P
Renal	√	√	
Colon	√	√	
GBM ( Brain Cancer)		√	Azixa, CYT-997
Non Small Cell Lung Cancer			CA4P, ASA404, NPI-2358, ABT751
Mesothelioma	√		
Breast		√	ASA404

# Renal Cell Cancer Market: Commercial Opportunity



- Kidney cancer -3% of human malignancies, up to 95% of kidney cancers are renal cell carcinoma
- 200,000 cases diagnosed worldwide each year (55,000 in the USA)
- Five year survival rate in metastatic disease <2%
- 40% diagnosed at late stage
- First line treatments:
  - Sutent® (Pfizer) –
    - Approved in 2006 - doubling relapse-free survival from 5 to 11 months
    - Market leader, with market shares of 40% to 60% in Europe and 59% in the USA
    - US\$847M in worldwide sales in 2008
  - Nexavar® (Bayer and Onyx) –
    - Progression-free survival improved from 3 to 6 months
    - Recent approval in Japan (January 2008)
    - US\$677.8M in sales in 2008, almost exclusively in kidney cancer.
    - Anticipated sales US\$850M in 2009 and US\$1B in 2010.

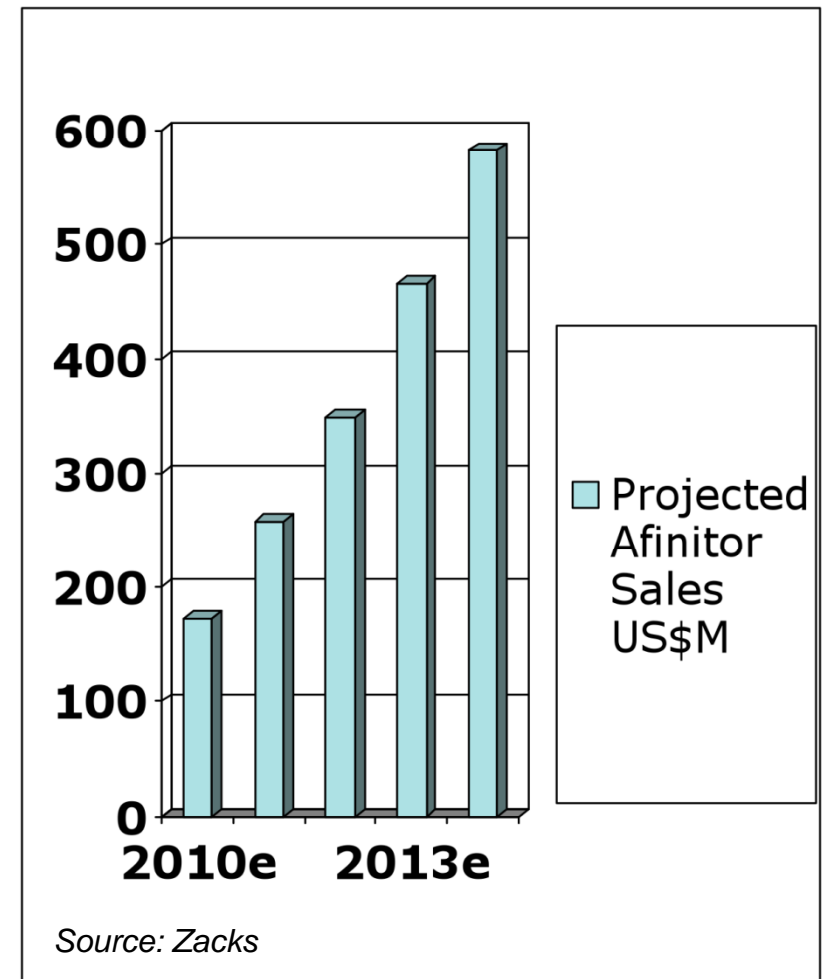
# Renal Cell Cancer Market: Commercial Opportunity



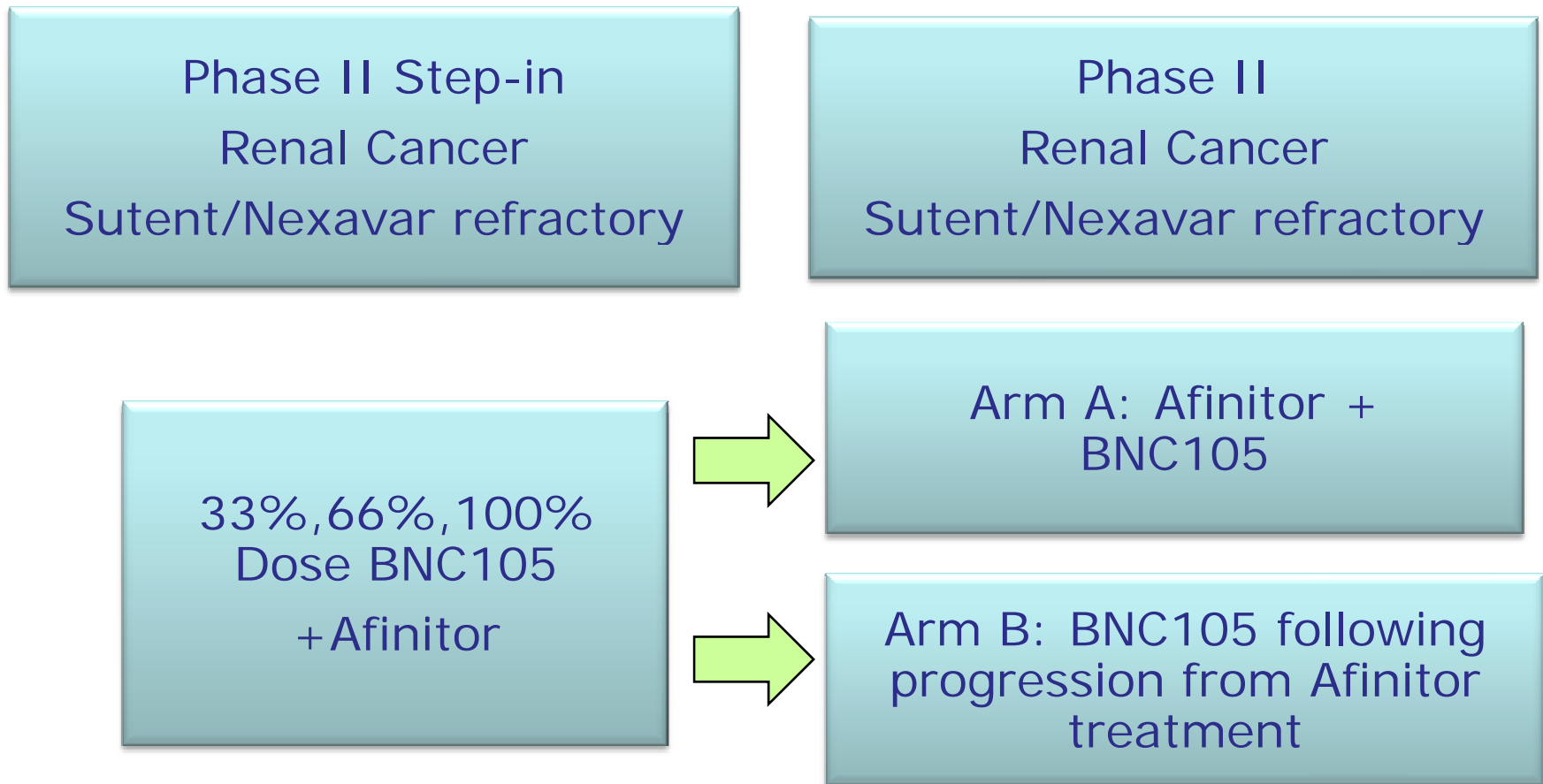
## Afinitor® (also known as Everolimus)

- FDA and EMEA approved in 2009
- Improvement progression-free survival from 1.9 to 4 months
- Sales in renal cell cancer estimated to be US\$520M which will be substantially increased by broadening the indications (*Source: Natixis*)

**➔ Bionomics has contracted the US based Hoosier Oncology Group to conduct a multi-centre Phase II clinical trial in renal cancer patients**



Renal Cancer Trial Design: study of BNC105 in combination with Afinitor or following Afinitor for progressive metastatic clear cell renal cell carcinoma following prior tyrosine kinase inhibitors



# Phase II Renal Cancer Trial Objectives



- **PRIMARY:**

- Improvement in 6 month Progression Free Survival (PFS) with the addition of BNC105P to Afinitor

- **SECONDARY:**

- To determine the response rate with combination therapy compared to Afinitor alone
- To determine the PFS with BNC105P alone in patients progressing on Afinitor
- To determine the overall survival

# Mesothelioma: Orphan Drug Indication with Rapid Path to Market



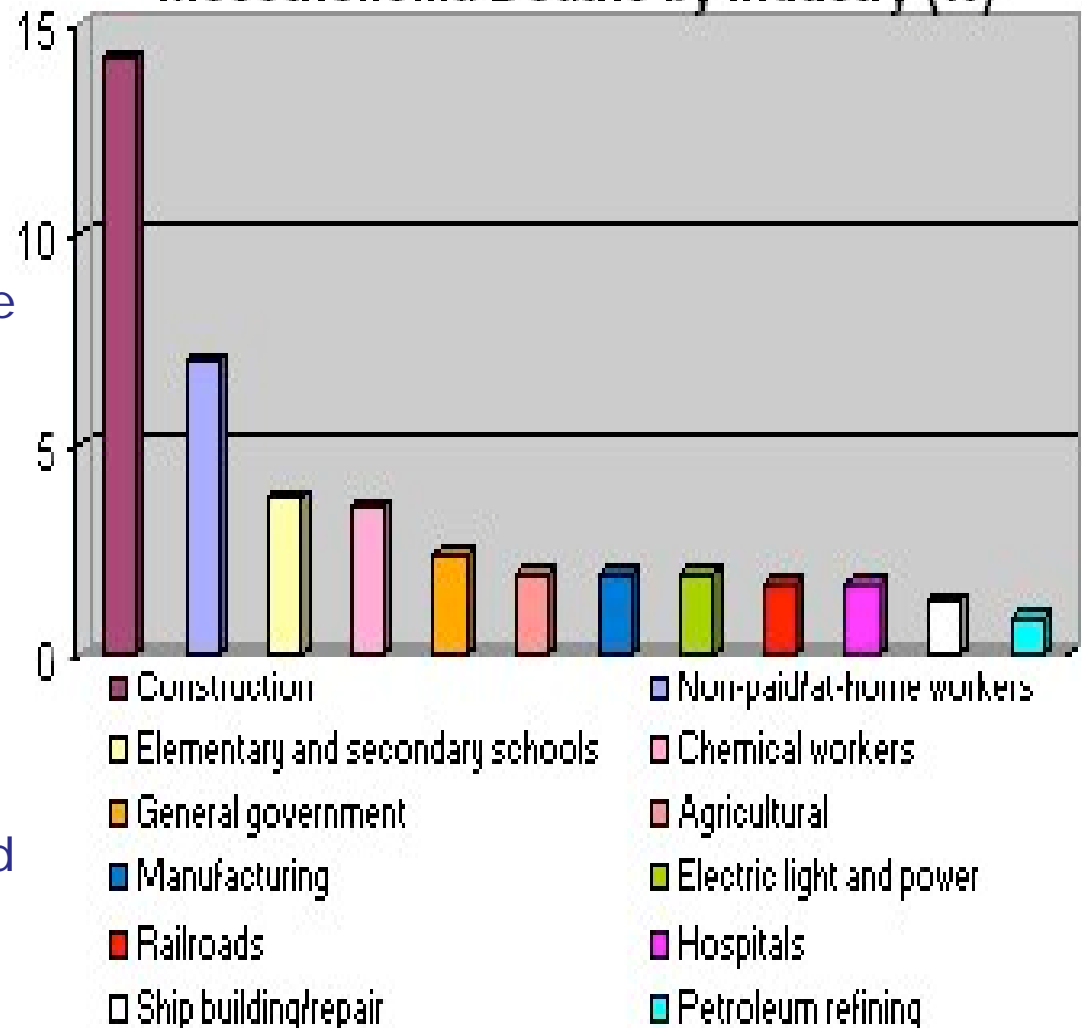
## In the US:

- Approximately 2,500 new cases each year
- 2,704 deaths in 2005
- 2005: estimated 4,361 people living with mesothelioma
- Expected 72,000 cases over next 20 years

## In Australia:

- In 2005 597 new cases of mesothelioma
- In 2006 486 deaths attributed to mesothelioma.

### Mesothelioma Deaths by Industry (%)



# BNC105P in Phase II Mesothelioma



## **STUDY TITLE:**

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

*Australasian Lung Cancer Trials Group (ALTG)*

## **PRIMARY OBJECTIVES:**

Determine the response rate as measured by modified RECIST criteria in patients with MPM receiving BNC105P as second line treatment after previous treatment with combination platinum/pemetrexed chemotherapy.

## **SECONDARY OBJECTIVES:**

To determine the effect of second line treatment of MPM with BNC105P on:

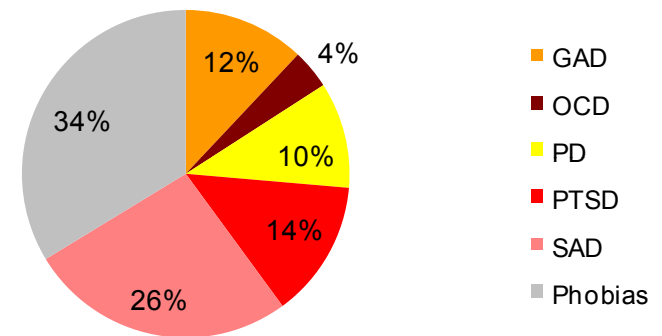
*Progression free survival (PFS); 6 month PFS; Time to treatment failure (TTF); Overall survival; Symptom control - quality of life; Lung function*

# Anxiety is a Prevalent Disorder with an Unmet Need



“Anxiety Disorders affect about 40 million Americans each year”

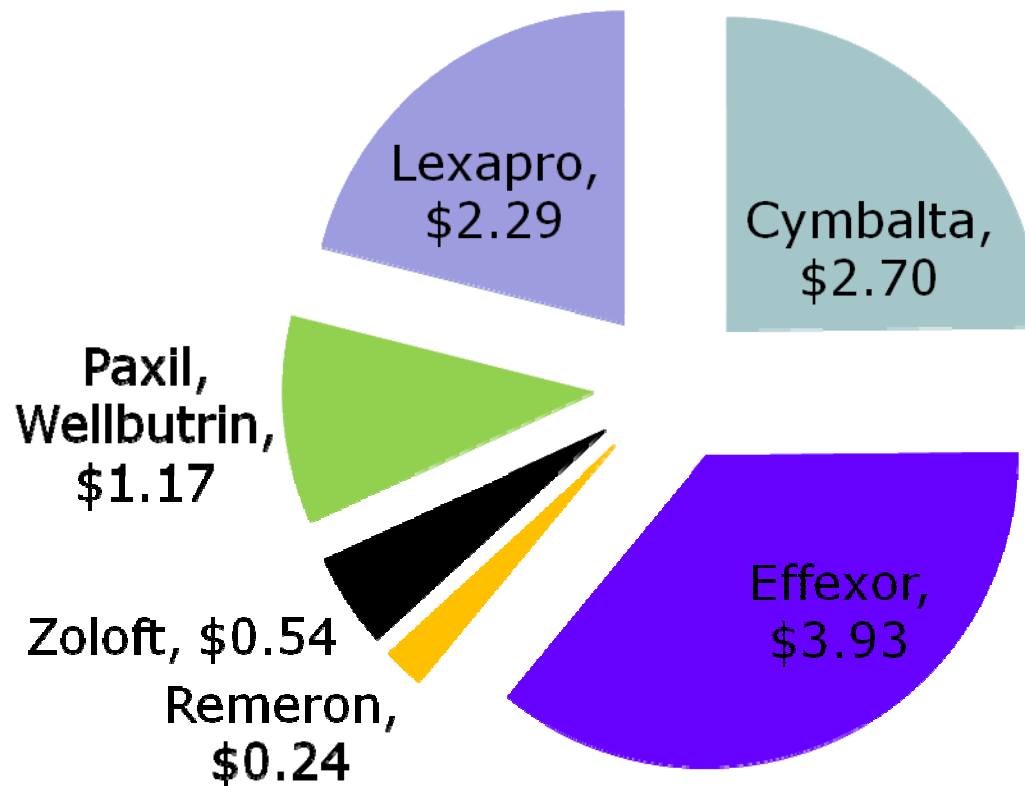
- ▶ Generalized Anxiety Disorder (GAD) affects 6.8 million in the US
- ▶ Women are twice as likely to be affected than men
- ▶ Very likely to be co-morbid with depression
- ▶ Anxiety drugs have been amongst the biggest blockbusters e.g. Valium, Prozac (US\$15 billion pa worldwide)
- ▶ Most anxiety drugs have major side-effects
- ▶ Market need for a safe, fast acting, non-sedating drug
- ▶ BNC210 suitable for both acute and chronic (GAD) forms of anxiety



<http://www.adaa.org/AboutADAA/PressRoom/Stats&Facts.asp>

*Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry, 2005 Jun;62(6):617-27.*

# 2008 Sales of Antidepressants (US\$B): A Significant Market Opportunity for BNC210



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

BNC210 combines the best features of major classes of current treatments for anxiety



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

# Depression: An emerging indication for BNC210



- Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self esteem, disturbed sleep or appetite, low energy and poor concentration.
- BNC210 is effective in a test used to measure the effect of antidepressant drugs on the behaviour of rodents, the forced swim test.
- BNC210 treatment not associated with physical dependence, does not cause abuse liability or development of tolerance.
- BNC210 potently enhances growth of nerve cells in culture, a hallmark of antidepressant activity.

# BNC210 Phase I Clinical Data



- Single Escalating Dose Study initiated June 2009, interim data reported October 2009
- Aims of trial:
  - Evaluate safety and pharmacokinetics
- Trial data indicates BNC210:
  - Safe and well tolerated
  - Blood levels and drug exposure in excess of that required for anxiolysis in animal trials
  - Stage 2 (higher dose levels) completed December 2009, data analysis underway

***Strategy to Partner BNC210 following Phase I***

# Valued partnership with Merck Serono in Multiple Sclerosis



## Current Treatments

- Partially Effective
- Major Side Effects - market need for safe, effective drugs
- Most drugs to treat MS are injected
- Estimated market is US\$2 billion



## Kv1.3: Novel Drug

- Found on T cells - blockers of Kv1.3 stop proliferation of nerve damaging T cells from MS patients
- Bionomics and Merck Serono seeking compounds which are:
  - Highly selective and potent = effective without side-effects
  - Orally acting
  - Extension of disease indication

# Outlook – significant value add milestones targeted over the next 12 months



Milestone	Timing
<b>BNC105</b> Initiation of Phase II renal cancer trial	Q4/Q1, 2009/2010 ✓
Contract to enter into Mesothelioma Phase II cancer clinical trial	Q4, 2009 ✓
Initiation of Mesothelioma Phase II clinical trial	Q1, 2010
Presentation of BNC105 clinical data at ASCO	Q2, 2010
Presentation of BNC105 data at AACR	Q2, 2010
Interim Phase II clinical data	Q4, 2010
<b>BNC210</b>	
Complete Stage 2 of current Phase I clinical trial	Q4, 2009 ✓
Initiate second Phase I clinical trial	Q1, 2010
Complete second Phase I clinical trial	Q2, 2010

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