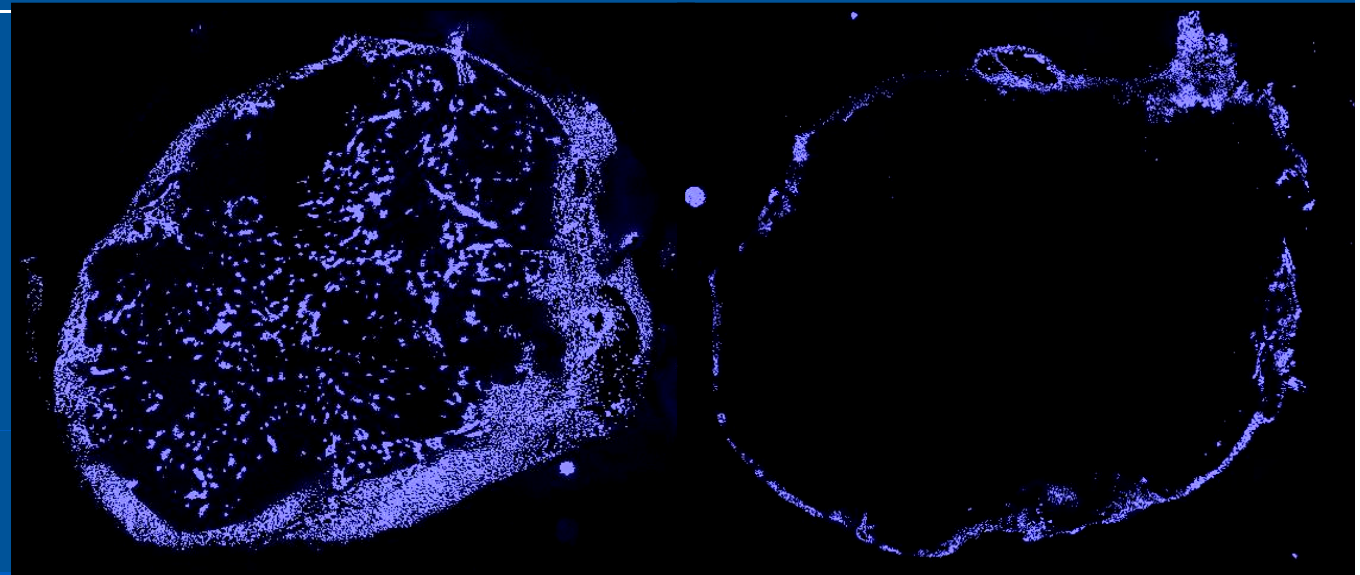




Company Presentation
22 April 2010



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.

Company Overview (ASX:BNO)



Bionomics is a leading international drug discovery and development company

Strong Management	<ul style="list-style-type: none">• Solid track record of successful clinical development and commercialization• Experienced value-adding Board
Exciting Drug Pipeline	<ul style="list-style-type: none">• Two potential blockbuster drugs in clinical trials in two years
Proven Technology Platforms	<ul style="list-style-type: none">• Proprietary drug discovery platforms to support future pipeline and deals - MultiCore[®], Angene[®], ionX[®]
Strong Commercial Deals	<ul style="list-style-type: none">• Partnership with Merck Serono – R&D fully funded, BNO retain upside
Operations in Australia and Europe	<ul style="list-style-type: none">• Principal research facility 2500m² state-of-the-art laboratories (Adelaide)• Profitable contract services subsidiary (Strasbourg)
Strong Balance Sheet	<ul style="list-style-type: none">• Cash runway of 2 years on current burn rate
Solid Shareholder Base	<ul style="list-style-type: none">• >\$100M market cap• Top 20 shareholders hold 72%

Business Model: Proprietary platforms build multiple pipeline and licensing opportunities



Proven technology platforms; Strong pipeline and Commercial deals



Technology platforms for drug discovery

Multiple drug candidates

Out-license & develop own products

Multiple revenue streams

*MultiCore®
Angene®
ionX®*

Focus on large markets with unmet needs:

Cancer

*Anxiety/
Depression*

*Multiple
Sclerosis*

Clinical development of selected drugs to "Proof of Concept"

Commercialize with big Pharma partners

✓ *License fees*

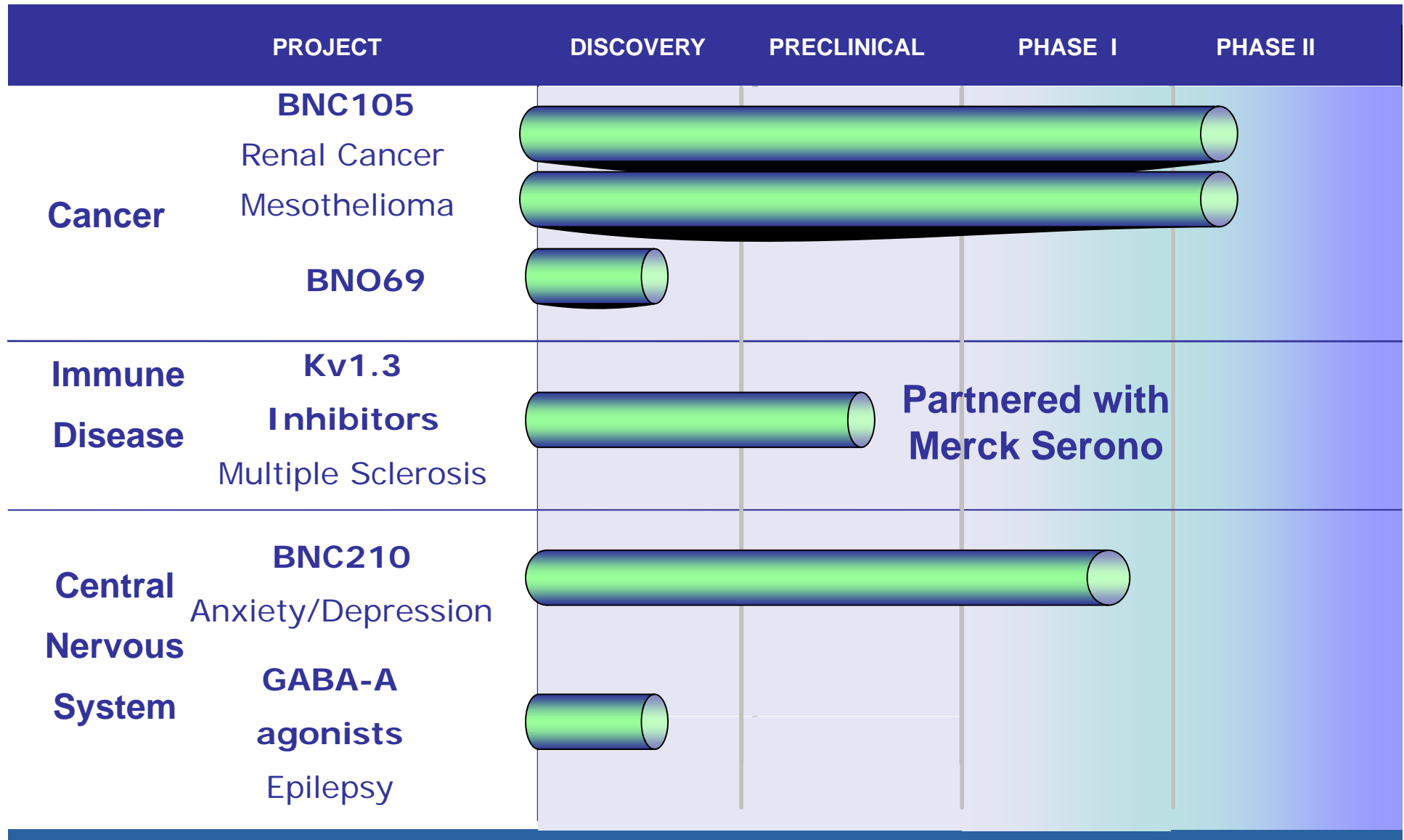
✓ *Milestone payments*

✓ *Royalties*

✓ *Development funding*

✓ *Contract research*

Bionomics' Pipeline



Lead Product: BNC105



- Vascular disrupting agent (VDA), shuts down existing and new tumour blood vessels
- Potential to treat all solid tumour types
- Currently in Phase II trials for two cancer indications:
 - Renal cell cancer
 - Standard treatment (in combination with immunotherapy):
 - 1) Sutent® (Pfizer); market leader; global sales of US\$964M in 2009
 - 2) Nexavar® (Bayer and Onyx); global sales of US\$811.3M in 2009; expected to sell US\$1.04 billion in 2010
 - Mesothelioma
 - Associated with exposure to asbestos
 - Standard treatment (in combination with chemotherapy): Alimta® (Lilly); global sales of US\$1.7 billion in 2009

BNC105: Commercialization Strategy



- BNO targets large markets with significant unmet need and large commercial opportunity:
 - **Large markets** – For example drugs used to treat renal cancer sell > US\$500 million per annum i.e. “blockbusters”; potential broader market opportunity e.g. prostate, lung and colon cancers
 - **Faster pathways to market** – Initial clinical trial indications provide fast track to market attractive to future licensees, with the potential to expand market to other solid cancers
- Key advantages:
 - Dual action - selectivity for tumour blood vessels combined with direct cytotoxic action on tumour cells; less liable to resistance
 - Vascular disruption traps and concentrates BNC105 within tumour for greater duration of action
 - 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*

BNO strategy to partner BNC105 following Phase II clinical trials

BNC105: Clinical Trials in Australia and US



- Successful Phase I – conducted in Australia under IND from FDA; confirmed safety, evidence of anti-tumour and VDA activity and suggested >10 fold therapeutic window vs leading competitor
- Phase II - Metastatic renal cell carcinoma (152 patient study in USA)
 - Compares BNC105 combined with Afinitor®* vs BNC105 alone in patients progressing on Afinitor
 - Interim data expected at the end of 2010, final results due in 2012
- Phase II - Mesothelioma (60 patient study in Australia)
 - Evaluating BNC105 treatment following previous treatment with chemotherapy.
 - Interim data expected in 2011, final results due in 2012

*Afinitor ® – current treatment for renal cancer after Sutent or Nexavar. Approved by FDA and EMEA in 2009. Sales are estimated to be US\$520M with potential to increase as approvals to treat other forms of cancer are obtained (*Source: Natixis*)

BNC105: Displays potent efficacy in animal models



Impressive clearance of tumours – unique amongst VDA to BNC105

What could BNC105 be worth?

Illustrative 2009/2010 deals



Drug/Licensee	Licensor	Development Stage	Deal Metrics
XL147, XL765 Exelixis	Sanofi-Aventis	Phase I/II	Global, upfront US\$149M, research funding over 3 years US\$21M, US\$1B milestones, royalties
Belinostat TopoTarget	Spectrum Pharma	Phase II/III	North America, India + right of first offer China, US\$30M upfront, US\$320M milestones, double digit royalties, US\$4M shares
OGX-011 Oncogenix	Teva	Phase II prostate cancer	Global, US\$20M upfront, US\$10M equity invest (at a premium), US\$370M milestones, double digit royalties
ARRY-162 Array Biopharma	Novartis	Phase I	Global, US\$45M upfront, US\$422M milestone payments, double digit royalties

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

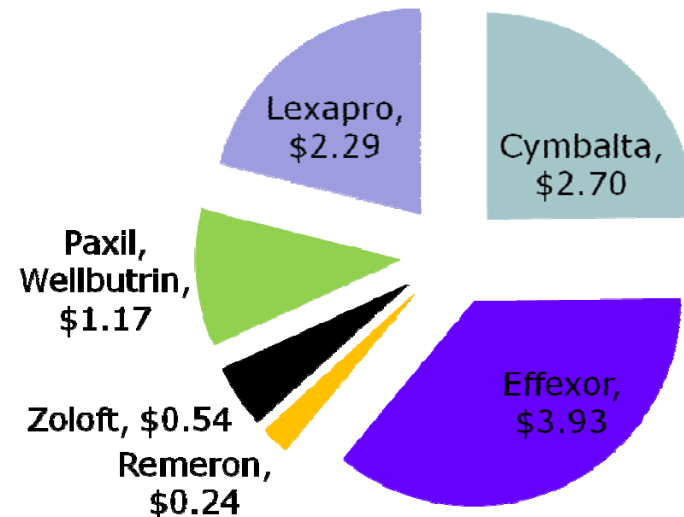


- Anxiety drugs have been amongst the biggest blockbusters e.g. Valium, Prozac (US\$15 billion pa worldwide)
- Anxiety Disorders affect 40 million Americans each year
- Most anxiety drugs have major side-effects
 - Market need for an effective, safe, fast acting, non-sedating, non-addictive drug

- 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: 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	X	X	X	✓	✓	✓
Prozac	✓	✓	✓	X	X	✓
Buspar	X	✓	✓	X	✓	X

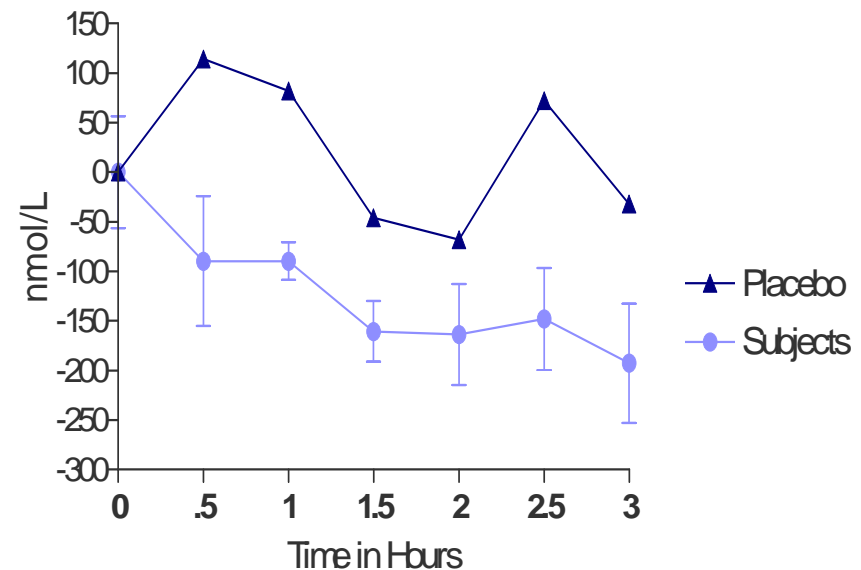
BNC210: Successful Phase Ia clinical trial completed in Q1, 2010



RESULTS:

- BNC210 safe and well tolerated, no clinically significant side-effects
- 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



***Next steps: Phase Ib trial to be initiated in Q2, 2010
Strategy to partner for Phase II development***

Drugs Currently Under Development In Partnership



Kv1.3

- 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).
- Potential to lead to a patient friendly MS drug which is:
 - Highly effective with fewer side effects
 - Orally active (not injected)
- A number of compounds currently under testing, fully funded by Merck Serono.
- 9 BNO scientists and significant resource allocation by Merck Serono committed to the collaboration.
- Revenue to BNO per successful compound: up to US\$47 million in milestone payments + royalties.
- Annual revenue of MS drugs world wide was US\$8 billion in 2009; significant market growth projected to 2025.



Capital Structure & Financials



ASX (BNO) listed: 1999

Shareholding:

2,642 shareholders (8.09)

Market Capitalization :

\$102 million (12.4.10)

Average Daily Turnover:

\$77,171 (rolling 6 months)

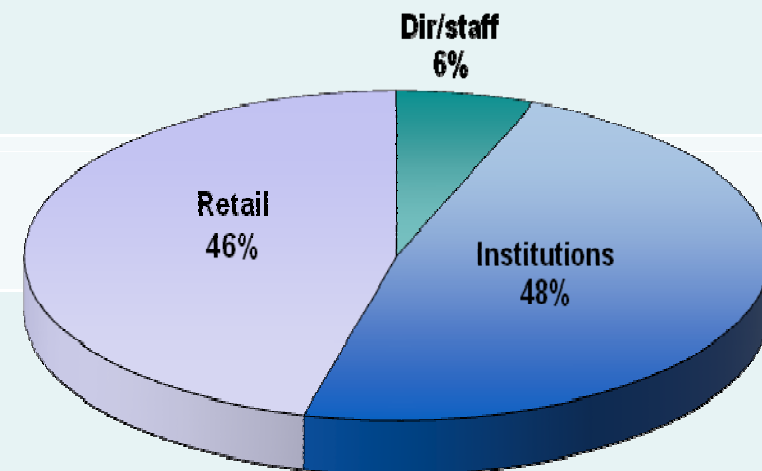
Shares on Issue:

318,204,279

Share Price = 32 cents (12.4.10)

52 wk high = 43 cents

52 wk low = 20 cents



Net Cash Position:

\$14,362,000 (31.3.10)

2 years capital based on current projected burn rate

Executive Team



Deborah Rathjen PhD,
MAICD, ATSE
CEO & Managing Director

Former Peptech/Arana, Business Development & Licensing, inventor TNF technology, licensed multiple products in HIV, cancer, drug delivery, diagnostics and drug discovery.

Trevor Thiele BA, ACA
CFO & Company Secretary

Joined Bionomics in 2009. Previous experience in commercial, financial and treasury roles in public companies involved in rural services, retail and food.

Gabriel Kremmidiotis PhD
VP, Discovery Research

Joined Bionomics in January 2002 where he leads drug discovery and the development of BNC105. Dr Kremmidiotis is a member of the American Association for Cancer Research and the American Society of Clinical Oncology.

Andrew Harvey PhD
VP, Chemistry

Joined Bionomics in 2007. Previously at The Walter and Eliza Hall Institute for Medical Research, as a NH&MRC Industry Fellow where his research involved identifying new treatments for MS.

Emile Andriambelosen PhD
Head of Research, Neurofit

Joined Neurofit in 2002 from Novartis Pharma (Switzerland). Previous positions include Heart Research Institute (Sydney, Australia) and University of New South Wales (Sydney, Australia).

Board



Christopher Fullerton B Ec
Non-executive Chairman

Career and experience covering investment, management and investment banking. Recent directorships and investment in healthcare and biotech sectors.

Deborah Rathjen PhD, MAICD, ATSE
CEO & Managing Director

Former Peptech/Arana, Business Development & Licensing, inventor TNF technology, licensed multiple products in HIV, cancer, drug delivery, diagnostics and drug discovery.

Trevor Tappenden ACA, FAICD
Non-executive Director

Partner of Ernst & Young between 1982 and 2003, holding a variety of positions including Managing Partner of the Melbourne Office and National Director of the Entrepreneurial Services Division.

Errol DeSouza PhD
Non-executive Director

Current CEO of leading US company Bidel, former President and CEO of Archemix and Synaptic, senior management positions at Aventis, founder and CSO of Neurocrine Biosciences

Outlook – major value add milestones



Milestone	Timing
BNC105	
Initiation of Phase II renal cancer trial	Q1/2010 ✓
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 - renal	Q4/2010
Interim Phase II clinical data - mesothelioma	Q1/2011
BNC210	
Results BNC210 Phase Ia trial	Q1/2010 ✓
Initiate Phase Ib clinical trial	Q2/2010
Interim data Phase Ib clinical trial	Q3/2010
Complete Phase Ib clinical trial	Q1/2011

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*

Deborah Rathjen
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