

6 January 2011

## Bionomics

Year End	Revenue (A\$m)	PBT* (A\$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
06/09	4.3	(6.2)	(2.5)	0.0	N/A	N/A
06/10	3.4	(7.4)	(2.5)	0.0	N/A	N/A
06/11e	3.8	(6.5)	(2.0)	0.0	N/A	N/A
06/12e	3.8	(6.7)	(2.1)	0.0	N/A	N/A

Note: \*PBT and EPS are normalised, excluding goodwill amortisation and exceptional items; revenue is adjusted to exclude interest income, per IFRS. Excludes commercialisation revenue.

### Investment summary: 2011 – year of change

2011 is set to be a critical year for Bionomics, whose investment case depends on interim analysis of two ongoing Phase II studies of BNC105 and a tender process for a c 28% equity interest conducted by its largest investor. Both are due in H1 and the latter may lead to an offer being made for the company.

#### Interim data for mRCC due first

Interim data from the BNC105 study in metastatic renal cell carcinoma is due first, in Q1, and will be followed by interim results from the study in mesothelioma in Q2.

These data are expected to provide the basis for Bionomics to secure a commercial partnership for the drug with a major pharmaceutical group.

#### Tender process may trigger bid

Start-up Australia Ventures (SAV) continues to seek, via a tender process, a trade buyer for its c 28% equity interest, in the knowledge that a sale to a single party would require the acquirer to make an offer for the remaining shares. As a result, the tender process is a key driver in the investment case in the short term. This process occurs independently of Bionomics, which continues to execute its development and commercial strategy as previously planned. The company has, however, retained Greenhill Calburn as financial advisor in connection with the process.

#### BNC210 results due shortly

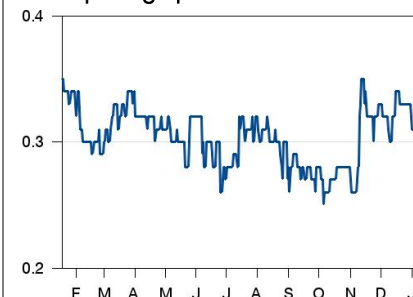
Final results for two smaller, but nonetheless still important, Phase Ib studies of the anxiolytic compound, BNC210, are also due in the first quarter.

#### Valuation: A\$235m based on risked NPV

We have revised our valuation to reflect progress achieved in 2010 and the improved competitive position of BNC105 and suggest a valuation of A\$235m including FY11 net cash, versus the previously published A\$175m. This is derived from our assessment of the potential economic reward and timelines associated with the successful development of BNC105 and BNC210.

Price 32c  
Market Cap A\$102m

#### Share price graph



#### Share details

Code BNO/BMICY  
Listing ASX/NASDAQ  
Sector Biotech  
Shares in issue 318.4m

#### Price

52 week High 35c Low 25c

#### Balance Sheet as at 30 June 2011\*

Debt/Equity (%) N/A  
NAV per share (c) 5.6  
Net cash (A\$m) 3.4

\* Edison estimates.

#### Business

Bionomics is an Australian biotech company focused on developing small molecule products for cancer, anxiety, epilepsy, cognition and multiple sclerosis. Its lead programmes are a VDA (BNC105) and an anxiolytic/anti-depressant compound (BNC210).

#### Valuation

	2010	2011e	2012e
P/E relative	N/A	N/A	N/A
P/CF	N/A	N/A	N/A
EV/Sales	N/A	N/A	N/A
ROE	N/A	N/A	N/A

#### Revenues by geography

	Europe	US	Other
0%	75%	5%	20%

#### Analyst

Robin Davison 020 3077 5737  
healthcare@edisoninvestmentresearch.co.uk

## Investment summary: Braced for year of change

### Company description: CNS/cancer focus

Bionomics is an Australian biotech company focused on the development of products for cancer and CNS conditions. The company is based in Thebarton, a suburb of Adelaide, with a subsidiary in Illkirch, near Strasbourg, France. It has 34 employees. Bionomics was founded in 1996 and listed on the ASX in 1999 (it also has a Level 1 ADR on NASDAQ [ticker BMICY]). It has raised A\$75m in equity funding to date. R&D programmes are summarised in Exhibit 1.

#### Exhibit 1: Bionomics's key R&D programmes

Programme	Indication	Stage	Notes
BNC105	RCC/ mesothelioma	Phase II	Vascular disrupting agent with cytotoxic activity. Two Phase II studies underway.
BNC210	Anxiety/ depression	Phase Ib	Novel small molecule with undisclosed mechanism. Phase Ib studies in volunteers in anxiety.
Kv1.3 inhibitor	MS/autoimmune	preclinical	Lead optimisation. Partnered with <b>Merck KGaA</b> .

Source: Edison Investment Research

### Valuation: A\$235m based on risk-adjusted NPV

We have revised our valuation to reflect progress achieved in 2010 and the improved competitive position of BNC105 and suggest a valuation of A\$235m including FY11 net cash, versus the previously published A\$175m. The risk-adjusted net present value is derived from our assessment of the potential economic reward and timelines associated with the successful development of BNC105 and BNC210 and has been updated to reflect the improved competitive position for BNC105 in particular. The valuation largely excludes the value of milestones (including those potentially receivable from Merck Serono in relation to the Kv1.3 programme) from potential licensing agreements for BNC105 and BNC210.

### Sensitivities

The interim results from the two ongoing clinical trials of BNC105 and the outcome of Start-up Australia Ventures' efforts to find a trade buyer for its 27.8% stake are two key sensitivities that currently dominate the investment case. If the tender process for SAV's stake is successful, it may lead to an offer being made for the remaining shares. Conversely, if it fails to do this, it may create the perception of an overhang in the shares. Furthermore, it should not be assumed that a successful sale of the SAV shareholding may necessarily lead to an adequate offer for the remaining shares. The tender process may also affect Bionomics's own efforts to attract licensing partners. Operationally, Bionomics is subject to the risks typically associated with biotech drug development, including the possibility of unfavourable outcomes in clinical trials, success of competitors and commercial decisions by potential and actual partners. The company is currently funded to mid calendar 2012. BNC105 contributes the bulk of the value in the R&D pipeline.

### Financials

We estimate Bionomics will end its 2011 financial year with cash of A\$6.3m (net cash: A\$3.4m), suggesting it is currently funded to mid calendar 2012 (end FY12). Bionomics generates revenue from licence fees from Merck Serono and payments for contract research services from Neurofit. No revenues from potential partnering deals are assumed in our financial model.

## Investment update: Interim data and tender critical

2011 is set to be a crucial year for Bionomics with two key events - the interim data from its Phase II studies of the vascular disrupting agent BNC105 and the outcome of Start-up Australia Ventures (SAV)'s efforts to find a buyer for its 28% equity interest – both due over the next few months. With data from the two Phase Ib studies with anxiolytic compound BNC210 also due shortly, clinical data and the outcome of the sale process effectively define the investment case.

Interim data from two ongoing Phase II studies with BNC105 is likely to be critical in the tender process that is being conducted by SAV for its substantial shareholding. This tender process is due to close on 31 March (although may be extended at SAV's discretion), timed presumably because interim results from the Phase II trial of BNC105 in renal cell carcinoma should be available by that point.

The tender process is the key driver for the investment case, because if SAV's shares are sold to a single party (eg a pharmaceutical or larger biotech company), that party would be obliged under Australian law to make a cash (or cash equivalent) offer for the remaining shares. Hence the SAV stake would provide a platform to acquire Bionomics. SAV has retained Ferghana Partners, a corporate finance boutique, to assist it find a purchaser.

A sale of the SAV shareholding to a single party may therefore catalyse a significant rise in the share price. However, the process may not be successful and, even if it is, the acquiring party may not subsequently make an adequate offer for the remaining shares.

The tender process takes place entirely independently of Bionomics, but it will have an unavoidable impact. We presume it will affect its ability to conduct BD activities as Bionomics may be prevented from undertaking any strategic transactions involving the use of its equity during a takeover bid. Nevertheless, Bionomics is continuing to execute its development and commercial strategy as planned. It has, however, retained its own advisor, Greenhill Caliburn, a subsidiary of Greenhill & Co, an NYSE-listed investment bank, to provide advice on a range of corporate and strategic issues, including the tender process. The Bionomics board also believes the company has a strong future as an independent company.

### BNC105 – two Phase II studies underway

Bionomics is conducting two studies with BNC105, summarised in Exhibit 2.

**Exhibit 2: BNC 105 Phase II trial summary**

Indication	Design	Notes
metastatic renal cell carcinoma (second/third line)	152-pt Phase II <a href="#">study</a> of BNC105 (up to 16mg/m <sup>2</sup> administered on days 1 and 8 of a 21-day cycle) in combination with everolimus (10mg qd) and as monotherapy.	<b>Primary endpoint:</b> Six month PFS. <b>Secondary endpoints:</b> Response rate for BNC105/everolimus combination; PFS with BNC105 alone; AEs of everolimus and BNC105 in combination or sequential regimen, OS. Exploratory analysis is correlation of PFS with biomarkers. <b>Status:</b> Interim results expected Q1, with final trial data readout in 2012. <b>Notes:</b> Study design allows examination of both second line (combination) and third line use independently.
Mesothelioma (second line)	60-pt Phase II study as monotherapy (up to 16mg/m <sup>2</sup> administered on days 1 and 8 of a 21-day cycle) after failure on pemetrexed + cisplatin.	<b>Primary endpoint:</b> Response rate (modified RECIST) <b>secondary endpoints:</b> PFS; six-month PFS; time to treatment failure; OS; symptom control, quality of life and lung function. <b>Status:</b> An interim analysis based on the first 24 patients enrolled (results due H111). Final results expected in 2012. <b>Notes:</b> Strong interim data may allow a partner to resize the study to provide pivotal data (~350 pts)

Source: Edison Investment Research

Competing programmes in mRCC and mesothelioma are profiled in Exhibits 3 and 4.

### Exhibit 3: Metastatic renal cell carcinoma (mRCC) profile

<b>Description</b>	Metastasised form of kidney cancer arising in the lining of the proximal convoluted tubules. Patients are usually diagnosed with non-metastatic RCC and undergo nephrectomy before disease usually becomes metastatic after a period of time (several years). <b>Incidence</b> is 210,000 cases/year worldwide (55,000 cases/year in the US and 63,000 in the EU). RCC accounts for c 90% of all kidney cancers. Five year survival rate in metastatic disease <2%.
<b>Current treatments</b>	Standard treatment for mRCC is immunotherapy (IL-2 or IFN-alpha) in combination with a TKI. Two TKIs: Sutent (sunitinib, Pfizer) and Nexavar (sorafenib, Bayer) and two mTOR inhibitors: Afinitor (everolimus, Novartis) and Torisel (temsirolimus, Pfizer) are currently approved. Afinitor is the only drug indicated for second line use. Avastin (bevacizumab, Roche) is approved in combination with IFN-alpha.
<b>Competitive landscape</b>	
Axitinib/Pfizer	650-pt Phase III <a href="#">study</a> for second line therapy (results: May 2011). 447-pt Phase III <a href="#">study</a> vs sorafenib (results: April 2011).
Tivozanib (AV-951)/AVEO/Kirin	500-pt Phase III <a href="#">study</a> (TIVO-1) vs sorafenib (results: Dec 2011). 272-pt Phase II study (results due: August 2010).
Anyara (nap-tumomab)/Active Biotech	524-pt Phase II/III <a href="#">study</a> (results: February 2011). Interim data show median survival of 26.2 months (c 2x expected)
IMA901/Immatics	330-pt Phase III <a href="#">study</a> (results: April 2014). 68-pt Phase II study completed (published at <a href="#">ASCO</a> 2010).
Foretinib/GSK1363089	71-pt Phase II <a href="#">study</a> (results due: June 2010).
XL880/GSK/Exelixis	
TKI258/Novartis	81-pt Phase I/II <a href="#">study</a> (results due: June 2010).
AMG 102/Amgen	61-pt Phase II <a href="#">study</a> (results due: August 2010).
AGS-003/Argos	50-pt Phase I/II <a href="#">study</a> in combination with sunitinib (results: February 2011).
Aflibercept/Sanofi-Aventis	ECOG-sponsored 120-pt Phase II <a href="#">study</a> (results: April 2016).
Regorafenib/Bayer	41-pt Phase II <a href="#">study</a> (results: April 2011).
Ramucirumab/Lilly	39-pt Phase II <a href="#">study</a> (results: December 2010).
AMG386/Amgen	80-pt Phase II <a href="#">study</a> after cytokine failure in combination with sunitinib (results: May 2015).
Revimid (lenalidomide)/Celgene	68-pt Phase I/II <a href="#">study</a> (results: October 2012).

Source: Edison Investment Research

### Exhibit 4: Mesothelioma profile

<b>Description</b>	Cancer of the mesothelium (the membrane that forms the lining of several body cavities). Most commonly affects the pleura (the outer lining of the lungs and internal chest wall). Usually diagnosed at a late stage of the disease (life expectancy is only 6-12 months from diagnosis). Caused by prior exposure to asbestos. Incidence is 2,200 new cases/year in the US and c 5,000 cases/year in Europe.
<b>Current treatments</b>	Surgery and radiotherapy are used as a palliative treatment. Alimta (pemetrexed, Lilly) is approved in combination with cisplatin, based on a study in 456 pts which showed median survival of 12.8m vs 9m for cisplatin alone. Raltitrexed (Tomudex, Hospira) is approved in some markets in combination with cisplatin, based on a 2006 study which showed an ORR of 23.6% vs 13.6% for cisplatin alone; p=0.056). Raltitrexed/cisplatin showed a median OS of 11.4 vs 8.8 mths (p=0.0483) and PFS of 5.3 vs 4.0 mths (p=0.058). No other drugs are indicated for first or second line use.
<b>Competitive landscape</b>	
Zolinza (vorinostat)/Merck & Co	600-pt Phase III <a href="#">study</a> in second line setting (results: June 2011). Filing planned in 2012.
Onconase (ranpirnase)/Tamir Biotechnology/Par	300-pt Phase III showed a significant improvement in survival in pts who failed one prior chemotherapy regimen, a pre-defined sub-group, but not in all patients. FDA confirms additional study requirement. Updated survival data presented at <a href="#">ASCO</a> 2010.
NGR-hTNF/MolMed	390-pt Phase III <a href="#">trial</a> (NGR015) of NGR-hTNF plus best investigator's choice (BIC) versus placebo plus BIC (BIC includes supportive care alone or combined with one chemotherapeutic agent [either doxorubicin, gemcitabine, or vinorelbine]). Results of 57-pt Phase II study presented at <a href="#">ASCO</a> 2010.
bevacizumab/Roche	445-pt Phase II/III <a href="#">study</a> of Avastin in combination with pemetrexed/cisplatin (results: December 2011).
MORAb-009/Eisai	86-pt Phase II <a href="#">study</a> (results: December 2011).
CBP501/CanBas	72-pt Phase I/II <a href="#">study</a> of CBP501 in combination with pemetrexed/cisplatin (results: October 2011).
Recentin (cedirinib)/AstraZeneca	NCI-sponsored 116-pt Phase I/II <a href="#">study</a> of cediranib in combination with pemetrexed/cisplatin (results: March 2011); 50-pt academic sponsored study.
Afinitor (everolimus)/Novartis	39-pt Phase II <a href="#">study</a> in pts with Merlin/NF2 loss as biomarker of sensitivity (results: December 2011).
Milataxel/Taxolog	90-pt Phase II <a href="#">study</a> underway.
belinostat/TopoTarget/Spectrum	37-pt Phase II completed (no results published). 100-pt Phase I <a href="#">study</a> (results: October 2010).
AMG102/Amgen	55-pt Phase II <a href="#">study</a> in combination pemetrexed/cisplatin (results: October 2012).
Trovax/Oxford BioMedica	Investigator-sponsored open-label Phase I/II study of TroVax (MVA gene therapy for 5T4 tumour antigen) in combination with first-line chemotherapy (pemetrexed/cisplatin).
Various	Investigator-sponsored studies with single agent and combinations of bortezomib, oxaliplatin, bevacizumab, imatinib and gemcitabine.

Source: Edison Investment Research

Phase I data in 21 patients with advanced solid tumours helped establish the 16mg/m<sup>2</sup> dose (the study had dose escalations from 2.1mg/m<sup>2</sup> to 18.9mg/m<sup>2</sup>) as well as mesothelioma and RCC as the initial target indications. Four patients in the study achieved stable disease – one in mesothelioma (who as treated at 8.4mg/m<sup>2</sup>, SD at 22 weeks) and one with RCC (treated at the 12.6mg/m<sup>2</sup>, SD at nine weeks). Preliminary data were reported at [ASCO 2010](#); preclinical data presented at [AACR 2010](#).

VDAs are expected to be used in conjunction with classical or targeted chemotherapy, as a means to shut down blood vessels that supply tumours. In common with other VDAs BNC105 acts via tubulin polymerisation inhibition, but it is the only one to have shown anti-tumour activity as a single agent. This dual mechanism could potentiate existing anticancer therapy (radiation treatment, cytotoxic chemotherapy and biological agents) and may be an important differentiating feature. The VDA competitive space is shown in Exhibit 5.

#### Exhibit 5: Vascular disrupting agents: competitive landscape

Product/Company	Indication/stage	Notes
Ombrabulin/ AVE8062/ <b>Sanofi-Aventis</b>	Soft tissue sarcoma (Phase II/III)	300-pt <a href="#">Phase II/III study</a> in advanced-stage soft tissue sarcoma after failure of anthracycline and ifosfamide (filing expected in 2011). 85-pt <a href="#">Phase I study</a> in combination with platinum-taxane doublet in advanced solid tumours (results: April 2011). Two Phase II proof-of-concept trials in preparation for first line NSCLC and second line ovarian cancer (expected to start in 2011). Other Phase I dose-escalation, PK and safety studies.
Zybrestat (fosbretabulin/combretastatin/CA4P) <b>OXIGENE</b>	Thyroid cancer (Phase II/III)/liver cancer/NSCLC (Phase I/II)	180-pt <a href="#">Phase II/III (FACT) study</a> with carboplatin/ paclitaxel in anaplastic thyroid cancer (results: early 2011). 63-pt <a href="#">Phase I/II study</a> in primary or secondary liver cancer (results: due September 2010). 60-pt <a href="#">Phase II (FALCON) study</a> with carboplatin, paclitaxel and bevacicumab in chemotherapy-naïve NSCLC (results: H210). Planned investigator-sponsored 36-pt Phase I study in AML and MDS.
BNC105/ <b>Bionomics</b>	mRCC/ mesothelioma/ (Phase II)	152-pt Phase II <a href="#">study</a> in combination with everolimus in second-line mRCC and BNC105 alone in pts progressing on everolimus. 60-pt Phase II study in mesothelioma unresponsive to pemetrexed + cisplatin.
Plinabulin/NPI-2358/ <b>Nereus</b>	NSCLC (Phase II)	180-pt <a href="#">Phase I/II study (ADVANCE)</a> of docetaxel ± plinabulin in advanced NSCLC (results due: November 2010). Interim data published at <a href="#">ASCO 2010</a> on 64 pts showed 6/27 (22%) PRs the combination on vs 2/37 (5%) in the docetaxel arm (p=0.04).
Azixa (MPC-6827) <b>Myrexis/EpiCept</b>	GBM (Phase I/II)	68-pt <a href="#">Phase I/II study</a> in recurrent glioblastoma multiforme (results: Jan 2011). 30-pt Phase I/II in combination with carboplatin in recurrent/relapsed GBM (results: Aug 2010).
CYT997/ <b>YM Biosciences</b>	GBM (Phase II)	35-pt <a href="#">Phase II study</a> in combination with carboplatin and etoposide in relapsed GBM (Phase I results: mid 2010/Phase II 2011).
corlibulin <b>EpiCept</b>	N/A	33-pt Phase I in advanced cancer completed. Phase Ib with other chemotherapy planned.
Vadimezan/ASA404 (DMXAA)/ <b>Antisoma</b>	SCLC (Phase II)	Investigator-sponsored 57-pt Phase II study in <a href="#">small cell lung cancer</a> (results: March 2012). Phase III studies in first- and second-line non-small cell lung cancer both failed interim analyses.
ABT-751/E-7010/ <b>NCI</b>	Neuroblastoma (Phase II)	88-pt NCI-sponsored <a href="#">Phase II study</a> in refractory neuroblastoma (results: Jan 2012). Phase II studies in NSCLC in combination with taxotere and refractory haematological malignancies terminated. Prior development discontinued by Abbott.

Source: Edison Investment Research

Bionomics has seen BNC105's competitive position in the putative vascular disrupting agent class considerably strengthened over the course of 2010, with the discontinuation Novartis/Antisoma's vadimezan/ASA404, the previous lead product in the class. Bionomics now is effectively in joint second position with Oxigene's Zybrestat (although has shown certain advantages over this product<sup>1</sup>), behind the new class leader, Sanofi-Aventis's ombrabulin. Ombrabulin may be filed in soft tissue sarcoma later this year, presuming its Phase II/III study is successful.

BNC105 should be an attractive development asset and, subject to the formation of a partnership, could in our view be developed for larger cancer indications, including possibly one or more of the big four solid tumours (lung, breast, colon and prostate). This may be dependent on the outcome of the registration studies of ombrabulin – Sanofi-Aventis is planning to initiate Phase II studies in

NSCLC and ovarian cancer this year – as well as that of a Phase II study of Nereus Pharma's plinabulin in NSCLC, which is due shortly.

## BNC210 – anxiety model and EEG studies

Bionomics is conducting two Phase Ib studies concurrently in healthy volunteers (see Exhibit 6). Both studies have completed dosing and should render results shortly. The two studies, if successful, are designed to establish efficacy, while showing a lack of sedation or memory impairment. These should also confirm the 300mg dose (taken with food) as being an effective dose for Phase II studies.

### Exhibit 6: BNC 210 clinical trial summary

Design	Endpoints/notes
22-pt Phase Ib anxiety challenge (two-way crossover of a single 2,000mg dose or placebo on separate occasions with CCK).	<b>Primary endpoint:</b> Panic symptom scale. <b>Secondary endpoints</b> Include: STAI (Spielberger State-Trait Anxiety Inventory), e-VAS (emotional-Visual Analogue Scale); mood as measured by ARCI 49 (Addiction Research Center Inventory) and heart rate. The study will also record blood pressure, serum cortisol and adrenocorticotrophic hormone (ACTH) levels.
24-pt Phase I (EEG) study (four-way crossover study of 300mg and 2,000mg doses of BNC210, 2mg of lorazepam or placebo).	<b>Primary endpoint:</b> Attention measured by the critical flicker fusion threshold and multiple choice reaction time. <b>Secondary endpoints:</b> Psychomotor speed (digit symbol substitution test), quantitative wake EEG, visuo-motor coordination (peak saccadic velocity), memory (perceptual priming test), mood (e-VAS and ARCI 49) and sleepiness (Karolinska sleepiness scale). The study will record biomarkers (ACTH and cortisol levels).

Source: Edison Investment Research

BNC210 has demonstrated activity in models of acute and chronic anxiety and depression. Preclinical studies suggest it is effective in reducing anxiety without drowsiness or impairment of memory or motor function or dependence following cessation of treatment. This profile suggests it may have competitive advantages over existing anxiety and depression treatments, including a fast onset of action, a lack of sedation, memory and motor impairment and no risk of habituation.

Current anxiety treatments have various limitations or side effects associated with their use. Benzodiazepines offer acute relief from anxiety but have sedative, cognitive and motor impairing side effects, and can result in tolerance and addiction if used over extended periods. SSRIs exhibit slow onset of action and are associated with side effects such as early agitation, gastric disturbances, sexual dysfunction and weight gain. There are relatively few competing agents in development (Exhibit 7).

### Exhibit 7: Competing developments in anxiety

Class	Company	Mechanism	Notes
Lu AA21004	Lundbeck/ Takeda	5-HT <sub>3</sub> antagonist, 5-HT <sub>1a</sub> agonist and 5-HT enhancer	457-pt Phase III and 300-pt Phase II in relapse prevention (completed, <a href="#">no results yet</a> ). Three Phase III studies completed for depression; two did not reach significance, a third trial showed mixed results.
AZD2327	AstraZeneca	Selective, high affinity enkephalinergic agonist	80-pt <a href="#">Phase II study</a> in anxious major depressive disorder (results due: Dec 2011).
GSK561679	GSK	CRFR1 antagonist	150-pt <a href="#">Phase II study</a> in women with PTSD (results: Dec 2012). Failed in a 150-pt <a href="#">Phase II study</a> in depression ( <a href="#">details</a> ). CRF1 antagonist.
ABIO 08/01	Abiogen	N/A	Phase II studies ( <a href="#">no details disclosed</a> ).
ADX71149	Addex/J&J	mGluR2 PAM	Planned Phase II studies in Q111. Phase I studies included an anxiety challenge model.
orvepitant	GSK	NK1 antagonist	In Phase II for depression. Possible Phase II for anxiety.
AZD7268	AstraZeneca	enkephalinergic receptor modulator	231-pt <a href="#">Phase II study</a> in major depression completed (no <a href="#">results published yet</a> ). Anxiety considered a second indication.
ABT 436	Abbott	N/A	Phase I study completed.

Source: Edison Investment Research

<sup>1</sup> BNC105's therapeutic index is 26 times greater than fosbretabulin/compretastatin A4.

## Valuation

We have revised our valuation to reflect the progress achieved in 2010 and the improved competitive position of BNC105 and as a result suggest a valuation of A\$235m, versus the previously published A\$175m. This risk-adjusted net present value reflects our assessment of the potential economic reward and timelines associated with the successful development of BNC105 and BNC210.

As a result of the improved competitive position of BNC105 in the putative VDA class, we have assumed Bionomics is able to achieve better terms in a licensing deal than was possible previously (20% royalty vs 18%) and that it would now be commercially attractive to develop BNC105 for a broader range of cancer indications. We have also assumed a higher probability of success of BNC210 in anxiety (20% vs 15% previously).

The valuation still largely excludes the value of milestones (including those potentially receivable from Merck Serono in relation to the Kv1.3 programme) from potential licensing agreements for BNC105 and BNC210. Details are shown in Exhibit 8.

### Exhibit 8: Edison valuation model inputs

Note: Valuation uses forecast net cash as of 30 June 2011.

Product	Indication	Status	Probability of success	Est launch	Est peak market	Potential market value	Est maximum royalty	Est peak sales
BNC105	mesothelioma	Phase II	30%	2013	25%	\$750m	20%	\$278m
BNC105	mRCC	Phase II	30%	2013	10%	\$1,500m	20%	\$281m
BNC105	other solid tumours	Phase I	15%	2014	5%	\$10,000m	20%	\$936m
BNC210	anxiety	Phase I	20%	2014	5%	\$5,000m	12%	\$487m
Kv-1.3	MS/other autoimmune	Preclinical	5%	2015	5%	\$10,000m	12%	\$900m

Source: Edison Investment Research

## Sensitivities

Bionomics's investment case will in the short term be determined by the outcome of Start-up Australia Ventures' efforts to find a trade buyer for its 27.8% stake, since if this is successful, it would be likely to trigger an offer being made for the company. There is, however, no guarantee that the invitation to tender will be successful and, if it is, that an adequate offer for the remaining shares is subsequently made. The tender process could impact Bionomics's ability to conduct BD activities as it would be prevented from undertaking any strategic transactions involving the use of its equity during a takeover bid.

The company is currently funded to mid calendar 2012. Operationally, it is subject to the risks normally associated with biotech companies, including the possibility of unfavourable outcomes in clinical trials, success of competitors and commercial decisions by actual and potential partners. In addition, at this point we consider BNC105 to contribute the bulk of the valuation.

## Financials

We expect Bionomics to end its 2010/11 financial year with cash of A\$6.3m (net cash: A\$3.4m), suggesting it is currently funded to mid calendar 2012 (end FY12). Bionomics generates revenue from licence fees from Merck Serono and payments for contract research services from Neurofit. No revenues from potential partnering deals are assumed in our model. Our financial model is shown in Exhibit 9.

**Exhibit 9: Financial results and forecasts**

Note: Under Australian accounting standards, interest income is treated as a revenue item. For international comparability, we have adjusted financial forecasts to exclude this and include grant income, per IFRS. Interest income is shown separately in the P&L (reported pre-tax profit is equivalent to that shown by the company). No assumption of potential licensing deals is anticipated in the model.

Year end 30 June	A\$'000s	2008	2009	2010	2011e	2012e
		IFRS	IFRS	IFRS	IFRS	IFRS
<b>PROFIT &amp; LOSS</b>						
<b>Revenue</b>		<b>6,513</b>	<b>4,321</b>	<b>3,396</b>	<b>3,840</b>	<b>3,840</b>
Cost of sales		(213)	(338)	0	0	0
Gross profit		6,300	3,983	3,396	3,840	3,840
<b>EBITDA</b>		<b>(4,058)</b>	<b>(5,628)</b>	<b>(7,163)</b>	<b>(6,083)</b>	<b>(6,084)</b>
<b>Operating profit (before GW and except.)</b>		<b>(4,661)</b>	<b>(6,159)</b>	<b>(7,644)</b>	<b>(6,613)</b>	<b>(6,613)</b>
Intangible amortisation		(479)	(502)	(474)	(500)	(499)
Exceptionals		0	0	0	0	0
Share-based payments		(258)	(242)	(336)	(242)	(241)
<b>Operating profit</b>		<b>(5,398)</b>	<b>(6,903)</b>	<b>(8,454)</b>	<b>(7,355)</b>	<b>(7,353)</b>
Net interest		(313)	4	240	150	(50)
<b>Profit before tax (norm)</b>		<b>(4,975)</b>	<b>(6,156)</b>	<b>(7,404)</b>	<b>(6,463)</b>	<b>(6,663)</b>
<b>Profit before tax (FRS 3)</b>		<b>(5,712)</b>	<b>(6,899)</b>	<b>(8,214)</b>	<b>(7,205)</b>	<b>(7,403)</b>
Tax		359	37	0	0	0
<b>Profit after tax (norm)</b>		<b>(4,616)</b>	<b>(6,119)</b>	<b>(7,404)</b>	<b>(6,463)</b>	<b>(6,663)</b>
<b>Profit after tax (FRS 3)</b>		<b>(5,353)</b>	<b>(6,862)</b>	<b>(8,214)</b>	<b>(7,205)</b>	<b>(7,403)</b>
Average number of shares outstanding (m)		225.3	243.0	300.8	318.1	318.1
EPS - normalised (c)		(2.0)	(2.5)	(2.5)	(2.0)	(2.1)
EPS - FRS 3 (c)		(2.4)	(2.8)	(2.7)	(2.3)	(2.3)
Dividend per share (c)		0.0	0.0	0.0	0.0	0.0
Gross margin (%)		96.7	92.2	100.0	100.0	100.0
EBITDA margin (%)		N/A	N/A	N/A	N/A	N/A
Operating margin (before GW and except.) (%)		N/A	N/A	N/A	N/A	N/A
<b>BALANCE SHEET</b>						
<b>Fixed assets</b>		<b>19,457</b>	<b>18,837</b>	<b>17,618</b>	<b>16,695</b>	<b>15,667</b>
Intangible assets		10,839	10,458	9,711	9,211	8,712
Tangible assets		8,618	8,379	7,908	7,484	6,955
Investments		0	0	0	0	0
<b>Current assets</b>		<b>8,856</b>	<b>5,888</b>	<b>13,896</b>	<b>7,621</b>	<b>1,487</b>
Stocks		79	122	113	128	128
Debtors		2,315	775	847	958	958
Cash		6,280	4,757	12,612	6,302	168
Other		182	232	324	232	232
<b>Current liabilities</b>		<b>(3,051)</b>	<b>(2,791)</b>	<b>(3,236)</b>	<b>(3,465)</b>	<b>(3,465)</b>
Creditors		(2,109)	(1,626)	(2,008)	(2,300)	(2,300)
Other current liabilities		(241)	(109)	(70)	(109)	(109)
Short-term borrowings		(572)	(529)	(627)	(529)	(529)
<b>Long-term liabilities</b>		<b>(3,955)</b>	<b>(3,850)</b>	<b>(3,343)</b>	<b>(3,078)</b>	<b>(3,078)</b>
Long-term borrowings		(3,536)	(3,165)	(2,692)	(2,392)	(2,392)
Other long-term liabilities		(50)	(50)	(50)	(50)	(50)
<b>Net assets</b>		<b>21,307</b>	<b>18,083</b>	<b>24,936</b>	<b>17,773</b>	<b>10,611</b>
<b>CASH FLOW</b>						
<b>Operating cash flow</b>		<b>(6,512)</b>	<b>(4,986)</b>	<b>(7,100)</b>	<b>(5,955)</b>	<b>(6,084)</b>
Net interest		569	287	468	150	(50)
Tax		0	0	0	0	0
Capex		(386)	(107)	(43)	(107)	0
Payment of deferred consideration		0	0	0	0	0
Capitalisation of development costs		0	0	0	0	0
Expenditure on intangibles		0	(4)	(3)	0	0
Acquisitions/disposals		0	0	0	0	0
Financing		103	3,739	14,944	0	0
Dividends		0	0	0	0	0
Net cash flow		(6,226)	(1,070)	8,266	(5,912)	(6,134)
<b>Opening net debt/(cash)</b>		<b>(8,401)</b>	<b>(2,173)</b>	<b>(1,063)</b>	<b>(9,293)</b>	<b>(3,381)</b>
HP finance leases initiated		0	0	0	0	0
Other		(4)	(39)	(37)	0	0
<b>Closing net debt/(cash)</b>		<b>(2,172)</b>	<b>(1,063)</b>	<b>(9,293)</b>	<b>(3,381)</b>	<b>2,753</b>

Source: Edison Investment Research, Bionomics accounts

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Lincoln House, 296-302 High Holborn, London, WC1V 7JH ■ tel: +44 (0)20 3077 5700 ■ fax: +44 (0)20 3077 5750 ■ [www.edisoninvestmentresearch.co.uk](http://www.edisoninvestmentresearch.co.uk)  
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