

# Biotron Limited

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Recommendation : BUY

## *Medical Researchers (of Australia) – Unite !*

# of Shares (post IPO):	64M	Market Cap (at Share Offer):	\$32M	Issue Price:	50 cents
% All Ords:	na	% Sector:	na	Valuation:	72 cents

### Summary

Biotron Ltd is an Australian biotechnology research company focusing on drug development. The company intends to raise \$12m, in an IPO, to fund research with a view to licensing outcomes to international pharmaceutical companies. The company is based at the John Curtin School of Medical Research (JCSMR), at the ANU in Canberra, and employs several academics under a consultancy arrangement with them.

Biotron's Director of Research, Professor Peter Gage, also holds the position of Professor of Physiology at JCSMR and is highly regarded in the scientific community for his work on the functional and pharmacological properties of ion channels, the basis of the company's core platform technology.

### Investment View

Structural issues in the global pharmaceutical industry are creating opportunities for small biotechnology research companies. Biotron is seeking to exploit these opportunities with a novel platform technology developed at JCSMR. The company has recognised expertise in the area of "ion channel" activity, which underpins the bulk of its pipeline projects.

At this stage, the company has developed only one compound to pre stage 1, namely "Virion". "Virion" has shown anti-viral activity against HIV "in vitro" and is considered the most likely candidate for out-licensing in the short term (less than 3 years). We expect the upside potential in the stock to progressively accrue with the out-licensing of this compound to a major pharmaceutical company. The downside risk for investors are delays in achieving any licensing related outcomes.

Notwithstanding the long lead time required for the commercialisation of Biotron's seven project portfolio, we have valued (NPV) the company's three more mature projects (CT-1, CT-2, Virion) at 72 ¢ per share. In light of our assumptions (see Scenario analysis) we believe at an initial share offer price of 50 ¢ investors receive the balance of the portfolio pipeline for free. We believe Biotron offers exposure to the exciting, if somewhat speculative, end of the biotechnology sector.

<b>Key Data</b>	Shares offered for subscription	24,000,000
	Share Offer price	\$0.50 per share
	Number of free Options offered (1 Option for every 4 Shares)	6,000,000
	Options Exercise Price (Exercisable 30/6/02)	\$0.60
	Market Cap on listing	\$32,000,000
	Proforma net assets	\$42,221,000
<b>Underwriter</b>	Johnson Taylor Potter Corporate Finance Ltd	

<b>Float Proceeds</b>	Management intends to use the capital raised in the float to:	
	•	Fund Intermediate and Applied Research of C-Test and Virion
	•	Fund Intermediate Research of Other Projects
	•	Fund Research Support and Other Expenses

## Company Overview

Biotron was established to invest in and co-ordinate “intermediate” research projects based on intellectual property (IP) developed at the John Curtin School of Medical Research (JCSMR), at the Australian National University (ANU). The company’s core focus is the licensing of compounds arising from these research projects to third parties, such as pharmaceutical companies, for eventual commercialisation. Biotron aims to derive revenues from upfront, milestone and royalty payments in addition to cooperative development options and government grants.

Upon incorporation in February 1999, the company entered an agreement with the ANU and Anutech Pty Ltd (ANU’s commercial arm) which post listing, provides for -an exclusive, royalty-free, worldwide licence to “basic” or primary research existing at the time of listing; ownership of IP developed arising from the “intermediate” or developmental research conducted on basic research at time of listing ; and a right of first refusal to fund any “basic” research which is deemed commercially valuable arising from current and associated projects. Biotron does not intend conducting “basic” research per se.

## Strategy

Biotron has articulated a two-pronged strategy. The initial focus, and major application of funds raised, will be on the development of three lead projects; two cancer diagnostics, and a compound based on the ion channel platform technology “Virion”, targeting HIV to the stage of commercialisation. The second area of focus is on the ongoing development and application of the company’s ion channel platform technology. To date, Biotron has assembled four lead projects based on the ion channel platform technology. These are: Hypoxion, Gabion, Muscion and GeneTrans. In both cases, Biotron intends to license out the resulting compounds for clinical development and commercialisation to third parties such as pharmaceutical companies.

## Principal Activities & Key Projects

The company is currently managing seven key projects targeting a number of attractive target markets (see table 1) which will constitute the ANU’s provisionally patented “basic” research IP post listing. Three of these projects, namely CT1, CT2 and Virion (also know as C9), have been earmarked for near term commercialisation as potential out-licensing candidates. A primary area of research activity is the application of Biotron’s novel ion channel platform technology, which underpins four of the seven lead compounds so far developed.

**TABLE 1. BIOTRON R&D PROJECT PORTFOLIO**

Compounds	Therapeutic Category	Applications	Technology Focus	Time to market**
C-Test - CT1	Diagnostic	Cancer Detection	Cancer technology	2002
C-Test - CT2		Cancer Identification	Cancer technology	2003
Virion (C9)	Antiviral	HIV	Ion Channel Platform	2003
		Ross River Fever	Ion Channel Platform	2003
		Barmah Forest Fever	Ion Channel Platform	2005
		Dengue Fever	Ion Channel Platform	2006
Hypoxion	Treat for Hypoxia*	Treatment	Ion Channel Platform	2005
		Prophylactic	Ion Channel Platform	2007
Gabion	CNS agents	Anaesthetic	Ion Channel Platform	2005
		Tranquilliser	Ion Channel Platform	2006
		Anti-epileptics	Ion Channel Platform	2007
Muscion	Ryanodine Receptor	Heart	Ion Channel Platform	2006
		Malignant Hyperthermia	Ion Channel Platform	2006
		Insecticide	Ion Channel Platform	2006
GeneTrans	Gene Therapy	Adjunct to Chemotherapy	Cancer technology	2007

\*Reduced oxygen in arterial blood symptomatic of Heart Attack or Stroke conditions.

\*\* Anticipated by management

Source: Biotron Prospectus

## SWOT analysis

### **Strengths**

**Strategic alliance with JCSMR.** The John Curtin School of Medical Research (JCSMR), based at the Australian National University (ANU) in Canberra, is a leading medical research institute in Australia. The institute boasts three Nobel Prize winners and has to date housed the research projects leading to Biotron's core platform technology in ion channels. Biotron's strategic alliance with the John Curtin School of Medical Research (JCSMR) provides a valuable link to a well-recognised centre of research excellence. We believe, in the absence of peer reviewed scientific research, given the precarious nature of provisional patent approvals and the associated risk to intellectual property, such an alliance provides unofficial endorsement of the rigour of Biotron's research methodology and large Pharma visibility. Previous associations of JCSMR with biotechnology companies include an early stage association with currently leading Australian biotech player, Biota. We note Biotron has secured the right to continue conducting basic research at JCSMR at no cost.

**Intellectual Property Rights secure.** Biotron has secured the intellectual property rights (IPR) from the ANU, and Anutech Pty Ltd, to develop and commercialise existing intellectual property represented by Biotron's current projects. In addition, Biotron has obtained the IPR to all existing and future "Intermediate Research". Thirdly, Biotron has secured a first right of refusal to fund any Basic Research arising from the Membrane Biology Program, the Molecular Genetics Program, the Immunology Program and any other associated program with commercial potential. Clearly, ownership of any results stemming from Biotron's research projects forms an integral part of the value of the company. Patent position notwithstanding, we view Biotron's IPR agreement as a major strength and a key driver of the company's long term prospects.

**Ion channel expertise a strong platform from which to build.** Ion channels are protein pores in the cell membrane through which ions pass subject to an electrochemical gradient. Ion channels are classified broadly by the principal ion they carry (sodium, potassium, calcium, chloride) and the mechanisms by which they are opened and closed. The multiple roles of ion channels in normal and altered physiology explain some current pharmacological mechanisms and point to potentially promising new interventions and therapeutic strategies.

Research Director and founder of Biotron, Professor Peter Gage, was awarded an Award of a Special Research Centre by the Australian Government in 1982 for research on nerve and muscle ion channels. Recently, evidence has begun to emerge of other roles for ion channels such as in the development of cancer, tumour invasion, and possibly metastasis. Biotron's portfolio of scientific projects is largely based on applications of its understanding/expertise of ion channel activity in cell membranes and therefore provides a potentially strong platform to build new applications.

**Solid technical expertise of senior management and board of directors.** We believe the senior management and board of directors have a good balance of entrepreneurial and technical industry experience. Recently appointed Managing Director, Dr Noel Chambers, completed his PhD at Sydney University's Department of Pharmacology, and was most recently employed as Business Development Manager with the US-based multinational biotech company Promega Corporation. In that role, Dr Chambers was responsible for technology transfer and expansion of the company outside of the United States, which we believe, be a valuable skill set given Biotron's early stage of development. In addition, he is currently the industry division convenor for the Australasian Research Management Society and was appointed as MD of Biotron in October 2000.

# Biotron Limited

TABLE 2. BIOTRON KEY PERSONNEL

Name	Position	Qualifications	Previous Experience
<b>Board of Directors</b>			
Michael Hoy	Non-Executive Chairman	na	Dep. CEO and Ed. Director of John Fairfax Ltd
Dr Noel Chambers	Managing Director	BSc(Hons), PhD	Bus. Dev. Manager with Promega Corp Ltd.
Prof. Peter Gage	Executive-Research Director	MB, ChB, PhD, DSc	Current Prof. of Physiology at JCSMR
Dr Michael Hirshorn	Non-Executive Director	MBA, MB, BS	Co-founder of Cochlear, Founding dir. ResMed
Bruce Hundertmark	Non-Executive Director	BE, Bec	MD of merchant bank IMFC Ltd.
Peter Scott	Non-Executive Director	na	Currently chairman of Scott's Acorn Pty Ltd
<b>Other Senior Management</b>			
Peter Nightingale	CFO and Company Secretary	BEc, ACA	Various fin roles in Aust, USA and Europe
Neil White	Operations Manager	DipAp Sci (Agric), MAICD	CSIRO, ICI, and ANU
Prof. Robert Seemark	Ind. Research Advisor	BAGSc, PhD	Ass. Prof of Obst. & Gyn at Uni. Adelaide
<b>Researchers</b>			
Prof. Philip Board	GeneTrans Project Leader	BSc (Hons), PhD	Current Head of Molecular Medicine (JCSMR)
Prof. Angela Dulhunty	Muscion Project Leader	BSc (Hons), PhD, DSc	Prof. Of Bioch. and Molecular Biology (JCSMR)
Dr Gary Ewart	Virion (& C9) Project Leader	BSc(Hons), PhD	Disc. the anti-HIV-1 activities of C9 at JCSMR
Prof Christopher Parish	C-Test Project	BAGSci, PhD	Head of Immunology & Cell Biology (JCSMR)

Source: Biotron Prospectus

**Key Research Personnel.** Individual projects will be continue to be managed by existing key research personnel at JCSMR and supervised by a special purpose Research Panel. The panel will be bring together the Managing Director, The Research Director, a research adviser and three other members to steer ongoing research. We believe the coupling of the Managing Director with key research personnel ensures a commercial focus without compromising the scientific integrity or culture.

**Advanced research projects provide near term revenue visibility.** Biotron has three key projects in advanced stages of development ; CT1, CT2 and Virion. We anticipate any positive news announcements associated with the ongoing commercialisation of these products should provide short-term catalysts for investor interest and triggers for breakthrough share price movements.

## Weaknesses

**Negotiation/Out-licensing skills with third parties untested.** An issue for Biotron is its limited experience with negotiations of out-licenses to third party developers. A risk in licensing out at early stages of drug development is the transfer of earnings upside to the potential licensee. Typically, the earlier a compound is licensed in its drug development cycle the less valuable the revenues derived from these licensing arrangements.

**Patent position.** Current provisional patents governing ion channel technology methodology for research funded by the ANU to date belong to the University. Subject to ANU's Head Agreement, with Biotron, the company upon listing will be granted an exclusive, royalty-free, worldwide licence to develop, commercialise and sub-licence these patents to third parties. However, all basic research IPR existing at the date of listing, other than the ANU Patents, becomes Intermediate Research IPR and the property of Biotron (to the extent owned by Biotron). Our primary concern here is on the provisional status of ANU's patent position, which exposes Biotron to downstream risk, and to a lesser extent on the potential commercial restrictions such an arrangement may produce.

**Alliance with ANU.** The current arrangement with ANU allows minimal operating costs. However, unforeseen changes in circumstances such as working relationship problems or space constraints may require Biotron to relocate premises and incur related additional costs.

**Key personnel risk.** Ongoing research is largely dependent on continuing services and commitment of key personnel. It remains to be seen how an overtly commercial focus will impact the internal culture of the research project team. A further consideration being management's ability to attract, develop, motivate, retain and effectively utilise auxiliary staff given the long lead times involved in basic research. That said, post listing key personnel/ and associates will hold over 40% of total shares on issue, which we believe will align interest with those of shareholders.

**Management.** We consider the balance of commercial and technical expertise secure at this stage. As the company develops more commercial skills will be needed.

**TABLE 3. TOTAL SHAREHOLDERS (POST IPO)**

Shareholder	Shares	% Holding
ANU	4,500,000	7%
Professor Peter Gage	9,500,000	15%
Professor and Mrs Philip Board	2,600,000	4%
Professor Graeme Cox	200,000	0%
Professor Angela Dulhunty	2,600,000	4%
Professor and Mrs Christopher Parish	2,600,000	4%
Dr Gary Ewart	500,000	1%
Michael Hoy	1,000,000	2%
Peter Scott	4,250,000	7%
Gail Scott	4,249,550	7%
Scott's Acorn Pty Ltd	450	0%
MIS Corporate Pty Ltd	5,000,000	8%
Canberra Business Development Fund	1,000,000	2%
Carrington Services Pty Limited	2,000,000	3%
New Shareholders	24,000,000	38%
Total Shares on Issue	64,000,000	100%

Source: Biotron Prospectus

**Project risk associated with in-vivo assessment of C9.** Biotron's lead antiviral compound, Virion (C9) has been shown to interfere with viral replication when tested on mammalian cells in vitro. We note further assessment of the compound "in-vivo" represents a significant project risk.

## Opportunities

**Attractive target end markets.** The respective sizes of Biotron's target end markets is compelling and provides significant earnings growth opportunities even with modest market penetrations provided an equitable out-licensing agreement can be reached with an international player.

**TABLE 4. BIOTRONS TARGET END MARKETS**

Compounds	Therapeutic Applications	Competitors	Target end market size (AUD\$)
C-Test Type I	Cancer (Detection)	AMD L Diagnostics	1.0 billion/pa
C-Test Type-II	Cancer (Identification)	No direct competitor	1.0 billion/pa
Virion	HIV	>15	7.3 billion/pa
	Ross River/ Barmah Forest Fevers	No treatment available	50 million/pa
	Dengue Fever	No treatment available	50 million/pa
Hypoxion	Heart Attack (Prophylactic)	Norvasc™, Procardia™	6.0 billion/pa
	Stroke (Treatment)	No direct competitor	1.0 billion/pa
Gabion	Anaesthetic	Diprivan™, Versed™	1.7 billion/pa
	Tranquiliser	BuSpar™, Valium™	1.0 billion/pa
	Anti-epileptics	Tegretol™, Lamictal™	700 million/pa
Muscion	Heart	Isoptin™, Lanoxin™	700 million/pa
	Malignant Hyperthermia	No comparable treat.avail.	50 million/pa
	Insecticide	Agricultural/Household	500 million/pa
GeneTrans	Adjunct to Chemotherapy	Neupogen™	600 million/pa

Source: Prospectus

## Threats

**Competition and long- term R&D horizons create business risk.** The majority of Biotron's standalone patentable projects, setbacks notwithstanding, are not expected to reach commercialisation stage prior to CY2005. Given the terms and conditions of Biotron's agreement with ANU, the company's proprietary value add and therefore earnings' potential will be determined in the intermediate research stage. That said, we do not anticipate early licensing agreements in the near term and recognise the company is exposed to the risk of other competitors reaching target end markets with a more sophisticated product.

**Competition and Out-licencing.** A further consideration with regard to competition is the prospect of potential licensees conducting R&D aimed at similar target end markets. We note, there are competing drug development programs in most of the major disease areas targeted by Biotron, many of these conducted by major pharmaceutical companies and therefore potential licencees.

## Scenario Analysis

We have modelled future cash flows from Biotron's three more mature projects (CT1, CT2, Virion) using the key assumptions listed below to arrive at an estimated NPV per share of 72¢. This approach does not attribute any value to Biotron's four other current projects.

TABLE 5. NPV KEY ASSUMPTIONS

Product	Regulatory approval process	Patent term	Royalty stream (%)	Terminal Mkt Share	NPV Discount rates	
C-Test - CT1	2 years	15 years	5%	16%	20.0%	
C-Test - CT2	2 years	15 years	5%	16%	20.0%	
Virion	7 years	15 years	5%	6%	20.0%	
Product	Target Mkt Size (\$M)	Licensing date	Comm. of Sales	Peak sales (Av.5 yrs)	NPV (\$M)	
C-Test - CT1	1,000	2002	2004	2009	17.1	
C-Test - CT2	1,000	2003	2005	2010	14.2	
Virion	7,000	2003	2010	2015	15.0	
					<b>NPV (\$M)</b>	<b>46.2</b>
					<b>Shares on issue (M)</b>	<b>64.0</b>
					<b>NPV per share (\$)</b>	<b>0.72</b>

Source: Assirt Equities Research

The table below highlights the company's anticipated funding requirements. In the absence of a major license deal or other source of funding, and assuming issued options (exercisable 30/6/02 @ 60¢) are exercised, we estimate the company will experience funding pressure by 2003.

TABLE 6. FUNDING PROJECTIONS

	FY2001	FY2002	FY2003
	\$'000	\$'000	\$'000
<b>Sources of Funds</b>			
Proceeds from the Issue of Shares	12,000		
Proceeds from the exercise of Bonus Options		3,600	
Interest	224	243	145
Other income			5,000
<b>Total Sources of Funds</b>	<b>12,224</b>	<b>3,843</b>	<b>5,145</b>
<b>Application of Funds</b>			
Intermediate Research			
C-Test and Virion	1,757	1,603	
Other Projects	1,506	2,322	3,197
Research support expenses	589	607	625
Applied Research			
C-Test and Virion		420	1,701
Other Expenses	2,236	1,209	1,307
<b>Total Application of Funds</b>	<b>6,088</b>	<b>6,161</b>	<b>6,830</b>
<b>Cash Balance on Hand</b>	<b>6,136</b>	<b>3,818</b>	<b>2,133</b>

Source: Biotron Prospectus

## Investment Opinion

Intense competitive pressure on pharmaceutical companies to maintain a consistent flow of innovative products to the market, and industry consolidation, is creating outsourcing opportunities for biotechnology and drug discovery companies. The three key criteria for large pharmaceutical companies and potential in-licensors are: a novel mechanism of action, phase of drug development, and the availability of other products. Other important issues for the pharmaceutical companies are synergies with existing product/therapy portfolios and the timing of licensing in the product lifecycle. Cancer, HIV and CNS are seen as the most commercially attractive areas for investment by pharmaceutical companies, both now, and in the foreseeable future due to a high unmet need.

We believe Biotron's core strength lies with its ion channel expertise. Notwithstanding the advanced stage of several key projects the company leads the market in a relatively novel approach to a number of traditional disease targets including Cancer, HIV and CNS disorders. At this stage, the company has identified only one compound, "Virion", which could be classed as a lead compound. Virion has shown anti-viral activity against HIV "in vitro" and is considered the most likely candidate for out-licensing in the medium term (2-3 years). The major downside risk for investors are delays in achieving any licensing related outcomes.

Notwithstanding the long lead-time required for the commercialisation of Biotron's seven project portfolio, we have valued (NPV) the company's three more mature projects (CT-1, CT-2, Virion) at 72 ¢ per share. In light of our assumptions (see Scenario analysis) we believe at an initial share price offer of 50¢, investors receive the balance of the portfolio for free.



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