



# Biotech Daily

Friday October 26, 2018

*Daily news on ASX-listed biotechnology companies*

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## MARKET REPORT

The Australian Stock Market edged up 0.02 percent on Friday October 26, 2018 with the ASX200 up 1.1 points to 5,665.2 points. Eighteen of the Biotech Daily Top 40 stocks were up, 10 fell, nine traded unchanged and three were untraded. All three Big Caps were up.

Compumedics was the best, up three cents or 8.8 percent to 37 cents with 36,885 shares traded. Volpara climbed 8.1 percent; Factor, Neuren, Prescient and Starpharma were up five percent or more; Paradigm improved 4.4 percent; Benitec and Resmed were up more than three percent; Actinogen, Avita, Immutep, Prana and Pro Medicus rose more than two percent; CSL and Nanosonics were up more than one percent; with Cochlear, Ellex, Mesoblast, Opthea and Telix up by less than one percent.

Osprey led the falls, down two cents or 10.3 percent to 17.5 cents, with 122,252 shares traded. Bionomics and Optiscan lost more than six percent; Orthocell fell 4.35 percent; Cynata and Impedimed were down more than three percent; Genetic Signatures shed 2.4 percent; Airxpanders was down 1.45 percent; with Clinuvel and Medical Developments down by less than one percent.

## [DR BOREHAM'S CRUCIBLE: BIOTRON](#)

**By TIM BOREHAM**

**ASX code:** BIT

**Share price:** 16.5 cents; **Shares on issue:** 531,314,728\*; **Market cap:** \$87.7 million

**Chief executive officer:** Dr Michelle Miller

**Board:** Michael Hoy (chairman), Dr Michelle Miller, Dr Susan Pond, Mr Rob Thomas, Prof Stephen Locarnini

**Financials (year to June 30 2018):** revenue nil\*, loss of \$1.59 million (previously \$3.09 million loss), cash of \$1.62 million (previously \$1.65 million)

**Identifiable biggest holders:** Armco Barriers Pty Ltd 2.79%, Dr Angela Fay Dulhunty 1.99%, Scott's AV Pty Ltd 1.76%

\* Ahead of exercise of 78.4 million in-the-money options by the end of November

Move over Viralytics, the immune-oncology outfit acquired by Merck for \$502 million earlier this year at a 160 percent premium.

Absent of any further pre-Christmas revelations from revved-up biotechland, this year's Biotech Dazzler of the Year award goes to Biotron, which has migrated from the sub \$10 million market cap 'death zone' to a substantive entity with a more than \$100 million valuation.

The astonishing appreciation came about all because of the 'c' word that should be sparingly used in drug development. We're not being rude, but 'c' refers to a potential cure for a common disease, in this case HIV.

The top line clinical results showed the company's BIT 225 compound zapped - rather than merely suppressed - the HIV virus.

Until then, Biotron's program has invoked yawns, on the presumption the existing anti-retroviral (ART) drugs did the trick for HIV.

True, the ARTs have been effective in reducing viral loads and keeping HIV/AIDS patients healthy and alive. But the sneaky virus lurks in cells and never goes away, which means the patients can never go off the drugs.

What's more, the persistence of the virus causes the immune system to age more rapidly and presents other problems such as AIDS-related dementia.

Astonishingly, only one human has been known to be cured of HIV. Dubbed the Berlin Patient, Timothy Ray Brown had leukaemia and underwent a bone marrow transplant and eight years later is drug-free and healthy.

While Biotron now has the share capital to raise decent licks of money without ridiculous dilution, the company plans to seek a deep-pocketed partner for further clinical development.

“We are heading to the US in early November to share data confidentially with potential partners,” says Biotron chief executive Michelle Miller.

“Being the head of a \$100 million market cap company makes my life a lot easier when I go to talk to the guys in America than when we had a \$10 million market cap, even though the technology has always been the same.”

## **About Biotron**

Biotron spun out of the Australian National University in 2000 and listed in January 2001 after raising \$12 million.

With a PhD in virology, venture capitalist Dr Miller became involved in the company shortly thereafter.

“I saw lot of deals that didn’t have clean intellectual property and the freedom to operate and were not in markets you could make a difference in,” she says. “This company had a way of targeting viruses in a way other people weren’t, and was scientifically strong.”

Dr Miller says Biotron hasn’t deviated from its focus on developing small molecule drugs to treat key viral infections, with the aim of partnering at clinical stage.

Since then, the company has plugged away at programs for HIV, Hepatitis C and Hepatitis B, while keeping a weather eye on other indications including Dengue fever, the Zika virus and Epstein-Barr virus (glandular fever).

Biotron’s chairman since listing, Michael Hoy, is a former director of the Fairfax media group and a one-time restaurateur. Fellow director Rob Thomas is also on the Starpharma board. This week, the company announced the appointment of Prof Steven Locarnini, director of the World Health Organisation’s regional reference laboratory for hepatitis B and D.

## **What’s all the fuss about?**

On September 28, Biotron announced that a phase II trial involving 27 HIV-infected patients showed “statistically significant immunological benefits”, which in layman’s terms means “you bloody ripper”.

Carried out in Thailand, the trial combined BIT225 with the current standard-of-care ART drugs.

The trial targeted macrophage reservoir cells, which house the residual virus even when tests show the ARTs have eliminated the nasties from the bloodstream.

“What we saw was an immune response generated by non-infectious virus coming out from macrophages,” Dr Miller says. “We did not expect to see this.”

The 12-week, placebo-controlled trial involved previously untreated subjects receiving a once-daily 200mg dose of BIT225 along with the ART drugs.

“We knew from laboratory-based studies that BIT225 targets and kills viruses that hide in long-lived reservoir cells,” Dr Miller said. “The challenge was how to show this in humans. No one has done this before, and there were no guidelines to follow.”

### **What happens now?**

As per biotech etiquette, the trial data announced to the ASX was only a non-geeky top-line summary of the clinical results. The full results are to be presented at a conference of learned peers, probably at the end of November.

Just as newspapers like their yarns to be exclusive, the conferences demand that the presentation material not be aired beforehand. And if you don't front these confabs, the clinical big wigs don't want to know you.

“There's ongoing work,” Dr Miller says. “Clinical trials are a source of fun and games for a long time to come. Further clinical analysis won't affect the outcome but they'll add to the picture of what is happening.”

Management envisages a ‘treatment interruption’ study, by which patients are taken off the ART drugs and treated with either BIT225 or a placebo. That way, it becomes clearer how and why BIT225 is working.

A successful result raises the prospect of patients enjoying a “treatment holiday” from the ARTs. There's also the prospect of mitigating AIDS-related dementia.

Another reason to get patients off the ARTs is that as they get older, they probably need drugs for other conditions and this can create complications.

Despite the market's focus on the HIV program, Dr Miller says investors should not forget that Biotron has a program for hepatitis C, a sector that has seen renewed interest. An earlier hepatitis C trial created a frisson of interest after reporting “significantly improved clinical outcomes”.

But until recently the hepatitis C message has been hard to sell because of the perception that drug giant Gilead cornered the market after acquiring Pharmasset - developer of the blockbuster drug Solvadi - in 2011.

But Dr Miler notes that 85 percent of people with hepatitis C in the US are not being treated with anything “and the number of people being cleared each year is being eclipsed by the number of new patients”.

Biotron is also pursuing partnerships in China, where there are a between 30 million and 40 million hepatitis C patients and a large incidence of co-infection with hepatitis B.

## **Finances and performance**

In June, Biotron raised \$1.4 million in a rights issue at 1.5 cents apiece, just to keep the lights on. Now, the company secretary is being besieged by shareholders asking how to convert their options, which with a 6.0 cents strike price and November expiry were assumed to be worthless a month ago.

These instruments will pull in \$4.7 million. Miller herself has converted a swag of her own options for an additional \$850,000. With a June 30 cash balance of \$1.5 million and a \$1 million Federal R&D Tax Incentive, Biotron has around \$7 million to play with.

In a cautious move, management has guaranteed the \$4.7 million will come through the door by entering an underwriting deal with Perth firm CPS Capital Group. "You never know what this market is going to do," Dr Miller says.

Still, it looks like money for old rope for CPS, which takes a 5.0 percent clip for negligible risk.

If another party funds the \$5 million to \$6 million cost of a further HIV trial and the company does not launch one for another indication, Biotron will only burn about \$250,000 of cash per quarter.

Having traded as low as 1.6 cents this year, Biotron shares spiked briefly to 44.5 cents on October 16 before investors took some semblance of a reality check.

Dr Miller says Biotron has a history of raising only enough equity as required at the time. Still, it must be tempting to avail of the enhanced share collateral and raise a decent wad with minimal dilution.

### **Dr Boreham's diagnosis:**

An obvious question is why any one of the half dozen or so HIV (or hepatitis C) drug companies would want to foster a 'cure' that kills their business.

Dr Miller notes that many of the ARTs are coming off-patent, so the big pharmas are scouring for other products. These drug companies could also preserve their margins by charging a small fortune for the new treatment.

Given the reduced incidence of hospitalization on the part of 'cured' patients, Biotron will have the blessing of the health insurers who ultimately foot the bill.

For commercial reasons, Biotron will focus on the US HIV market. But if Bill and Melinda Gates want to fund access for the millions of sufferers in developing countries, well and good ...

***Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a doctorate of any sort. The fact he is still writing for this column reflects the sad reality that he does not own Biotron shares.***

## OPTHEA

Opthea says it has “positive data” from its nine-patient phase Ib dose-escalation study of OPT-302 for patients with diabetic macular oedema (DME).

Opthea said the study evaluated three doses of OPT-302 at 0.3mg, 1.0mg or 2.0mg in combination with aflibercept, administered once every four weeks for a total of three intravitreal injections in patients with persistent central-involved DME despite sub-optimal responses to standard of care anti-vascular endothelial growth factor-A (VEGF-A) therapy. The company said that eyes with persistent DME sub-responsive to multiple prior anti-VEGF-A injections showed “visual and anatomic improvement at 12 weeks following conversion to OPT-302 combination treatment”.

Opthea said that a dose-response relationship of increased gains in visual acuity was shown with ascending dose levels of OPT-302 combination treatment which also produced reductions in retinal swelling.

The company said the results were presented at the Ophthalmology Innovation Summit held in conjunction with the American Academy of Ophthalmology meeting in Chicago on October 25, 2018.

In July, Opthea said that OPT-302 met its primary objective of acceptable safety and tolerability and supported the phase IIa trial of OPT-302 at the 2.0mg dose in combination with Eylea, which began a few days later (BD: Jul 26, 30, 2018).

Today, Opthea principal investigator and University of Southern California professor of ophthalmology Prof David Boyer said he was “highly encouraged by the evidence of efficacy and continued favorable safety profile for OPT-302 combination therapy which has potential to benefit the many diabetic patients who have limited responses to anti-VEGF-A treatment”.

The company said that trial patients had a history of diabetes with a mean duration of 14.1 years and persistent DME despite receiving a mean of 6.3 prior anti-VEGF-A injections. Opthea said the mean change at week-12 from baseline in best corrected visual acuity (BCVA) across all OPT-302 combination therapy dose groups was a gain of 7.7 letters, from a baseline of 65 letters, with a corresponding mean reduction in central subfield thickness of -71 micro-metres ( $\mu\text{M}$ ) from a baseline of 434 $\mu\text{m}$ .

The company said that a dose-response relationship of improved visual acuity at all time-points from baseline to week-12 was shown with ascending dose levels of combination treatment with BCVA gains of 3.0 letters, 5.7 letters and 14.3 letters at 0.3mg, 1.0mg and 2.0mg of OPT-302, respectively.

Opthea said that a similar dose-response was observed in the proportion of patients gaining five or more letters with one-of-three, two-of-three and three-of-three patients gaining five or more letters in each of the respective 0.3mg, 1.0mg and 2.0mg dose levels of OPT-302 in combination with aflibercept (2.0 mg).

The company said that five of the nine patients had bilateral disease with both eyes previously treated with anti-VEGF-A therapy, providing a within patient comparison of the study eye which received OPT-302 with aflibercept combination therapy and the fellow eye which continued on anti-VEGF-A monotherapy (aflibercept or ranibizumab).

Opthea said that combination therapy with OPT-302 with ranibizumab in the study eye had greater improvements than the anti-VEGF-A monotherapy in the fellow eye, with a mean change of a 10-letter gain compared to 2.6-letters.

Opthea chief executive officer Dr Megan Baldwin said that the dose escalation results along with the phase I/IIa wet age-related macular oedema (AMD) results show “a well-tolerated safety profile of OPT-302 in combination with aflibercept and ranibizumab and promising signs of clinical activity in both wet AMD and DME patients”.

Opthea was up half a cent or 0.9 percent to 57.5 cents with 3.75 million shares traded.

## CANCER THERAPEUTICS CO-OPERATIVE RESEARCH CENTRE, PFIZER

The Cancer Therapeutics co-operative research centre says it has a potential \$668 million two-year research collaboration and a license agreement with Pfizer.

The Federal Government-funded Cancer Therapeutics co-operative research centre (CRC) said that Pfizer would acquire the rights to two novel pre-clinical cancer programs and the CRC would receive \$US14.2 million (\$A20 million) upfront payment, with the potential of receiving up-to \$US460 million (\$A668 million) in development and sales milestones, as well as royalties on product sales if the program reaches commercialization.

The CRC, which uses the name CTX, said that the two programs targeted proteins known to play a role in driving the growth of both solid and blood cancers.

Cancer Therapeutics CRC chief executive officer Brett Carter said the Pfizer deal, “together with the three prior deals for [our] technology, has the potential to return [one] billion dollars to Australia”.

Pfizer head of oncology Dr Robert Abraham said his company was “constantly searching the globe for the best science that has the potential to change the way we can treat people with cancer in the future”.

“What we have found at CTX with these two chromatin-modifying enzyme targets are very promising, differentiated programs that have the potential to provide new treatment options for patients,” Dr Abraham said.

## NEUREN PHARMACEUTICALS

Neuren says it has begun negotiations with Acadia Pharmaceuticals for the rights to develop and commercialize trofinetide in territories outside North America.

In August, Neuren said the San Diego, California-based Acadia would pay \$630 million in upfront fees, milestones and royalties for a North American licence to trofinetide for Rett syndrome, Fragile X and other indications, with a first negotiation option for other territories (BD: Aug 7, 2018).

Today, Neuren said that Acadia had exercised that option and the exclusive negotiation period would expire on January 31, 2019.

Neuren was up 5.5 cents or five percent to \$1.16.

## MAYNE PHARMA

Mayne Pharma says it has acquired the US and Australian rights to halobetasol foam 0.05 percent for psoriasis for up-to \$US32.0 million (\$A45.3 million).

Mayne said it would pay \$US10.0 million in cash up front, \$US5.0 million at commercial launch plus contingent payments of up to \$US17.0 million based on reaching cumulative net sales targets, patent issuance and potential capital spend to support the project, along with an ongoing earn-out payment based as a percentage of net sales over a 10-year period.

The company said it had acquired the approved US regulatory filing, medical and technical data and a portfolio of pending US patent applications.

Mayne said halobetasol received US Food and Drug Administration approval in May 2018 and it was planning for the launch in early 2019.

The company said that halobetasol foam was “a potent corticosteroid used to treat plaque psoriasis” which affected about 7.5 million Americans with topical corticosteroids prescribed to about 80 percent of psoriasis patients.

Mayne fell 6.5 cents or 5.8 percent to \$1.05 with 16.8 million shares traded.

## CARDIEX

Cardiex says its Atcor Medical subsidiary has a new \$300,000 contract to supply Sphygmocor systems and clinical trial support to Astrazeneca.

Cardiex said the Sphygmocor systems would be used in a multi-national clinical study assessing the central hemodynamic effects of a novel compound for the treatment of heart failure.

The company said the trial would be conducted in European countries as well as the US over 18 months.

Cardiex said the trial was at phase II, "so it is anticipated to open a larger financial opportunity for Atcor Medical when the clinical program progresses to phase III".

Cardiex chief executive officer Craig Cooper said that "with the recent expansion of a number of existing clinical trial agreements, our Atcor group is continuing its strong momentum in the clinical trial support sector".

"The therapeutic focus for this new clinical trial is heart failure, which is estimated to affect over 5.5 million people annually and cost the US health care system over \$US30 billion per year," Mr Cooper said.

"We are very pleased to have our technology utilized in multiple ongoing heart failure trials in partnership with some of the leading global pharmaceutical companies as we jointly strive to find novel solutions to this costly disease," Mr Cooper said.

Cardiex fell 0.1 cents or 2.7 percent to 3.6 cents with 2.4 million shares traded.

## SOMNOMED

Somnomed says its net operating cash burn for the three months to September 30, 2018 was \$5,765,000 with cash at the end of the quarter of \$7,012,000.

Somnomed said the expected cash burn for the three months to December 31, 2018 was \$17,500,000 with revenue for the three months to September 30 of \$15,185,000.

The company said that total revenue was affected by a 15 percent decrease in its Renew Sleep Solutions business.

Somnomed chief financial officer Neil Verdal-Austin told Biotech Daily that the current three months were "a significant revenue and cash quarter for RSS and so we will manage the cash situation through that increased business and belt-tightening".

Somnomed fell 12 cents or 7.1 percent to \$1.58.

## COMPUMEDICS

Up to 91.06 percent of Compumedics annual general meeting shareholder votes opposed the re-election of 18-year director Dr Alan Anderson.

Compumedics said that Dr Anderson faced 110,827,903 votes (91.06%) against his re-election, with 10,879,963 votes (8.94%) in favor.

Compumedics' annual report said that the company had 177,162,948 shares on offer, of which founder and executive chairman Dr David Burton held 98,044,319 shares (55.34%).

The re-election of director Tucson Dunn and the adoption of the remuneration report were passed overwhelmingly.

Compumedics was up three cents or 8.8 percent to 37 cents.



## USCOM

Uscom says shareholders will vote to grant executive chairman Prof Robert Phillips 1,190,476 share rights at no cost and vesting on July 1, 2019.

Uscom's meeting notice said "the current cash salary of \$250,000 is significantly lower than the remuneration payable by a company of the size and nature of Uscom".

Uscom said the annual general meeting would vote on the remuneration report, the ratification of the issue of a prior placement, the additional 10 percent share placement capacity and the re-election of directors Christian Bernecker and Brett Crowley.

The meeting will be held at Level 11, 66-74 Clarence Street, Sydney on November 28, 2018 at 11:30am (AEDT).

Uscom was unchanged at 14 cents.

## BIOXYNE

Bioxyne will vote to grant five directors 7,500,000 performance rights and 1,000,000 options.

Bioxyne said it proposed to grant 1,000,000 options and 1,000,000 performance rights to director Peter Hughes Hallett, with 3,000,000 performance rights for chief executive officer Nam Hoat Chua, 1,500,000 performance rights for chairman Anthony Ho and 1,000,000 performance rights each to directors Maxwell Parkin and Patrick Ford.

The company said Mr Hughes-Hallett's options were exercisable at 4.5 cents by November 24, 2019 and all performance rights were pending share price and sales revenue targets.

The company said shareholders would vote on the remuneration report, the 10 percent placement capacity and the re-election of directors Mr Hughes-Hallett and Mr Ford.

The meeting will be held at RMS Australia, Level 13, 60 Castlereagh Street, Sydney, on November 29, 2018 at 12pm (AEDT).

Bioxyne was up 0.1 cents or 3.2 percent to 3.2 cents.

## OPTHEA

Opthea investors will vote to grant 4,000,000 options to chief executive officer Dr Megan Baldwin and 1,500,000 options each to directors Geoffrey Kempler and Michael Sistenich.

Opthea said that all options were exercisable at a 50 percent premium to the 5-day volume-weighted average price to November 29, 2018, within three years.

The company's notice of meeting said shareholders would vote on the remuneration report, the 10 percent placement facility and the re-election of Mr Kempler.

The meeting will be held at Gilbert and Tobin, 101 Collins Street, Melbourne, on November 29, 2018 at 11am (AEDT).

## NUHEARA

Nuheara will vote to grant director Kathryn Foster 3,000,000 options, vesting in three tranches and exercisable at nine cents each within three years of issue.

Nuheara said the annual general meeting would vote to approve the remuneration report, the prior issue of 63,157,895 shares, the 10 percent placement capacity and elect directors David Cannington and Ms Foster.

The meeting will be held at 190 Aberdeen Street, Northbridge, Western Australia, on November 30, 2018 at 1pm (AWST).

Nuheara was up 0.2 cents or 2.8 percent to 7.3 cents.

## AUSCANN

Auscann says its annual general meeting will vote to increase the pool of fees available for directors by 66.7 percent from \$300,000 to \$500,000.

Auscann said the maximum aggregate amount of fees had been determined “after reviewing similar companies listed on ASX and the directors believe that this level of remuneration is in line with corporate remuneration of similar companies”.

The company said that the meeting would vote to approve the remuneration report, the prior issue of shares and options, employee securities incentive plan and elect Dr Paul MacLeman as a director.

The meeting will be held in Meeting Room 6, Perth Convention and Exhibition Centre, 21 Mounts Bay Road, Perth, on November 27, 2018 at 10am (AWST).

Auscann fell two cents or 2.9 percent to 68 cents with 1.2 million shares traded.

## STARPHARMA

Starpharma will vote to grant chief executive officer Dr Jackie Fairley 674,901 free performance rights valued at \$825,000.

Last year, Starpharma investors approved the issue of 1,120,000 performance rights to Dr Fairley overwhelmingly, but in the previous year, the issue of 1,100,000 rights faced 19,329,682 votes (9.89%) against, with the opposing votes amounting to 5.2 percent of the company, sufficient to requisition extraordinary general meetings (BD: Nov 30, 2016).

Today, the company said that shareholders would vote on the remuneration report and the re-election of director Peter Turvey.

The meeting will be held at the offices of Norton Rose Fulbright, Level 15, RACV Tower, 485 Burke Street, Melbourne on November 29, 2018 at 3pm (AEDT).

Starpharma was up eight cents or 5.8 percent to \$1.46.

## PHOSPHAGENICS

Phosphagenics has told the ASX that it is not aware of any information it has not announced which, if known, could explain recent trading in its securities.

The ASX said the company’s share price rose 26.9 percent from 2.6 cents on October 25 to 3.3 cents today, October 26, 2018 and noted a “significant increase” in trading volume.

Phosphagenics said that on October 23 the Singapore International Arbitration Centre had reviewed the undisclosed tribunal award in the arbitration of the \$US300 million (\$A424.5 million) Mylan Laboratories licence case, with the draft decision still expected “shortly” (BD: Sep 4, 10, Oct 23, 2018).

Phosphagenics was up 0.2 cents or 7.7 percent to 2.8 cents with 95.95 million shares traded.