



# Biotech Daily

Monday July 29, 2013

*Daily news on ASX-listed biotechnology companies*

- \* **ASX FLAT, BIOTECH UP:  
- TISSUE THERAPIES UP 83%, PHOSPHAGENICS DOWN 9%**
- \* **NEUREN NNZ-2591 EFFICACY FOR FRAGILE X IN MICE**
- \* **PRANA DOSES 1<sup>ST</sup> PBT2 ALZHEIMER'S IMAGING EXTENSION PATIENT**
- \* **CALZADA: NO SECRET TRIALS, AOD9604 PRESCRIBED LEGALLY**
- \* **TISSUE THERAPIES EU VITROGRO 'DEVICE', 6 MONTHS TO SALES**
- \* **CANADIAN ALLOWANCE FOR BONE AXCESS II ORAL PEPTIDE PATENT**
- \* **BIONOMICS BEGINS BNC101 SAFETY ANALYSIS**
- \* **CELLMID, UK'S ABCODIA MIDKINE FOR COLORECTAL CANCER TEST**
- \* **COMPUMEDICS \$324k QATAR ORDER FOR LONG-TERM EEG SYSTEM**
- \* **HUNTER HALL REDUCES TO 7% OF BIOTA**

## MARKET REPORT

The Australian stock market was flat, up 0.09 percent on Monday July 29, 2013 with the S&P ASX 200 up 4.3 points to 5,046.3 points. Nineteen Biotech Daily Top 40 stocks were up, 12 fell, six traded unchanged and three were untraded. All three Big Caps were up.

Tissue Therapies was the best, climbing as much as 120.7 percent to 32 cents, before closing up 12 cents or 82.8 percent at 26.5 cents with 3.5 million shares traded, followed by Prana up 16.1 percent to 36 cents with 2.9 million shares traded.

Compumedics climbed 9.4 percent; Impedimed and Patrys were up more than eight percent; Optiscan rose 7.1 percent; Allied Health and Neuren were up more than five percent; Atcor was up 4.55 percent; Bionomics, Prima and Psivida rose more than two percent; Cochlear, GI Dynamics, Mesoblast, Osprey, Sirtex and Viralytics were up more than one percent; with CSL, Resmed, Starpharma and Universal Biosensors up by less than one percent.

Phosphagenics led the falls, down one cent or 8.7 percent to 10.5 cents with 2.9 million shares traded. Ellex, Genetic Technologies and Pharmaxis fell more than five percent; Heartware lost 4.1 percent; Avita, Living Cell, Medical Developments and Reva fell more than three percent; with Acrux, Alchemia and QRX down more than one percent.

## NEUREN PHARMACEUTICALS

Neuren says NNZ-2591 in a mouse model of fragile X syndrome normalizes known fragile X neuronal, behavioral and biochemical characteristics.

Neuren said that the Fragile X Drug Validation Initiative was an independent research institute supported by the Fragile X Alliance and had conducted a study using NNZ-2591 in a mouse model of Fragile X syndrome, using *fmr1* knockout mice.

The company said the experiment replicated the 2012 study with its lead drug molecule NNZ-2566 (BD: Nov 30, 2012).

Neuren said the NNZ-2591 study used a dose about one-third that of NNZ-2566.

The company said the study evaluated the treatment effect of NNZ-2591 compared with a control and measured growth and development of dendritic spines, or the connections between brain cells; behavioral characteristics; and brain biochemistry following treatment. Neuren said that NNZ-2591 was shown to reverse the differences between normal, or wild-type, mice and *fmr1* knockout mice, normalizing known fragile X neuronal, behavioral and biochemical characteristics.

The company said the study confirmed a significant ( $p < 0.005$ ), dose-dependent effect on reduction of excess dendritic spines, a hallmark component of fragile X syndrome.

Neuren said that treatment with NNZ-2591 was also significantly reduced both Extracellular signal-regulated kinases (ERK) phosphorylation ( $p < 0.05$ ) and Akt phosphorylation ( $p < 0.05$ ) in the brains of the *fmr1* knockout mice when compared to *fmr1* knockout mice treated with the control.

The company said that excessive ERK and Akt phosphorylation was believed to contribute to the dysfunction in neuronal signaling in fragile X syndrome.

Neuren said there were statistically significant differences, from  $p < 0.0001$  to  $p < 0.005$ , between *fmr1* knockout mice treated with NNZ-2591 compared to those treated with placebo on all the behavioral measures related to anxiety, short term memory, long term memory, hyperactivity, learning, species typical behaviors and social interaction.

Neuren chief executive officer Larry Glass said that the results "are compelling and reinforce our belief that NNZ-2591 is a valuable compound with significant promise as a therapeutic for chronic neurological conditions".

"That both NNZ-2566 and NNZ-2591 exhibit significant benefits in this model suggests a 'class effect' which has not previously been reported, in which two synthetic analogues of naturally occurring neuro-peptides show therapeutic potential in the same condition," Mr Glass said.

Neuren said it intended to present the results at the Fragile X Investigators Meeting in Boston in September 2013

Neuren climbed as much as 21 percent to 11.5 cents before closing up half a cent or 5.36 percent at 10 cents with 17.8 million shares traded.

## PRANA BIOTECHNOLOGY

Prana says the first patient has been dosed in the 12-month open-label extension study of Alzheimer's disease patients in its phase II Imagine brain imaging trial (BD: Mar 6, 2012).

Prana said that patients who completed the 12-month term of the Imagine trial were eligible for participation in the open-label extension study and would receive a 250mg once daily oral dose of PBT2 for an additional 12 months.

The company said the Imagine trial was a double-blind phase II trial of PBT2 in mild or prodromal Alzheimer's patients and the extension study did not alter the completion and reporting on the trial with results expected in March 2014.

Prana was up five cents or 16.1 percent to 36 cents with 2.9 million shares traded.

## CALZADA

Calzada denies running human trials of failed anti-obesity drug AOD9604 and says it has been used under an exemption to the Australian Therapeutic Goods Administration Act. Calzada chairman David Franklyn and wholly-owned subsidiary Metabolic chief executive officer David Kenley told Biotech Daily that they refuted the allegation in The Age on Saturday July 27, 2013 that they had run “a secret drug trial”.

Mr Franklyn said that the company was aware that the Essendon Football Club’s then supplements director Stephen Dank had been using AOD9604 since 2010 but Calzada “had no involvement” either directly or through any third party.

Mr Franklyn said the compound was “prescribed by a doctor and made by a compounding chemist” who was exempt from TGA regulation and allowed to do so.

The TGA has confirmed to Biotech Daily that the compounding pharmacist provisions, under State and Territory laws, allowed compounds that are prescribed by a doctor as long as it was not in commercial quantities.

Mr Franklyn said that AOD9604 had been used in 25 cases of which it was aware including four for soft tissue injuries and a tetanus infection.

Mr Franklyn said that although the company had nothing to do with the use of AOD9604 it did quote the data generated from the use in a patent application.

Mr Kenley told Biotech Daily that “the ‘black market’ as we describe it has been in breach of our patent since that trade started in 2008”.

“We have only licenced AOD to [Phosphagenics] for Bodyshaper,” Mr Kenley said.

In a media release to the ASX, Calzada said the reports in The Age and other Fairfax media implied that Metabolic had been involved in deceiving Essendon Football Club players into taking part in a secret drug trial.

“Calzada categorically refutes these allegations,” the media release said.

Calzada said that Metabolic had not been involved in any human clinical trial activity since early 2007; had never commissioned third parties to use AOD9604 for the purpose of generating patient data or any other purpose; and did not manufacture, supply or sell AOD9604.

The company said that in September 2012, Mr Dank agreed to document a number of historical case notes reporting his knowledge of the use of AOD9604 over a wide range of pathologies, but “these were not treatments commissioned by Metabolic” and he reported a total of 25 case notes assessing the biological function of AOD9604 for weight loss, body sculpting and detoxification, infection, soft tissue injuries and osteoarthritis.

“In no way do these notes constitute a clinical trial,” the company said

Calzada said the four case notes relating to professional footballers involved use of a topical cream form of delivery of AOD9604, not an injection.

The company said that AOD9604 had been the subject of six human clinical trials involving 925 patients between 2001 and 2007 which had shown that AOD9604 had “excellent safety and tolerability”.

In 2007, the then Metabolic demonstrated that AOD9604 did not reduce weight in a trial of 536 patients, and only those who did not conform to the US Food and Drug Administration diet and exercise regime lost weight (BD: Feb 21, 2007).

Calzada said that AOD9604’s safety “was further validated in June 2012 when AOD9604 received a pivotal ‘generally recognized as safe’ status recognition to enter the U.S. market as a food additive, conditional only on publication of existing pre-clinical and clinical safety data in peer-reviewed journals”.

Calzada fell 0.1 cents or 1.4 percent to 6.9 cents.

## TISSUE THERAPIES

Tissue Therapies says it expects European approval and sales for its Vitrogro wound treatment within six months and has the funds to reach beyond first sales.

Tissue Therapies has faced a number of delays with European bodies changing Vitrogro's classification and referring the wound treatment to separate regulatory bodies.

In March, Tissue Therapies said the British Standards Institute had given advice to the European Commission Medical Devices Group which then voted that Vitrogro should be regulated as a medicine and not a device, despite many months of regulatory process having been completed for approval as a device (BD: Mar 18, 2013).

Today, Tissue Therapies said the treatment had been defined as a device and after discussions with the European Medicines Authority, the EMA decided that the Medicines and Healthcare Products Regulatory Agency was the 'competent body' for approval.

Tissue Therapies chief executive officer Dr Steven Mercer told Biotech Daily that his company's legal team was "confident that the EMA had no grounds to refuse the manufacturing data review as the last step to approval".

"The EMA says the MHRA is the competent body and now we just need the EMA start date for the manufacturing data review, which is a desk audit without the need for any site visits, and that has to be done within 210 days and the average is about 192 days," Dr Mercer said.

"We expect approval within six months for all European member countries as well as Iceland, Lichtenstein and Norway and we can be selling Vitrogro within two business days of CE Mark approval," Dr Mercer said.

Dr Mercer said that the company had more than sufficient funds to reach that point.

In a media release to the ASX Tissue Therapies said it had engaged "a small team of expert health regulatory and health law advisors ... to resolve what is a highly unusual regulatory situation".

The company said it had confirmation from specialist regulatory lawyers that the EMA 'informal survey' of members had no statutory basis under European Commission law or European Union regulatory procedures; confirmation by the head of the EC Legal Affairs Unit that "... neither the European Commission nor the EMA are competent bodies to issue opinions or legally binding decisions on the classification of a product as a medical device" and that the UK MHRA was the "competent body".

Tissue Therapies said that after independently conferring with the EC Legal Affairs Unit, the EMA had confirmed that it will reconsider its position and proceed with the manufacturing data review upon receiving written confirmation of the classification of Vitrogro as a device by the MHRA and after the market closed in Australia on July 26, 2013, the MHRA confirmed by letter to both Tissue Therapies and the British Standards Institute that Vitrogro was classified as a device and the company had forwarded the MHRA classification confirmation letter to the EMA.

Tissue Therapies climbed as much as 120.7 percent to 32 cents, closing up 12 cents or 82.8 percent at 26.5 cents with 3.5 million shares traded.

## BONE MEDICAL

Bone says Canada has allowed its Axxess II patent application to formulate oral peptide product candidates for musculo-skeletal diseases.

Bone said the Axxess platform inhibited enzymatic break down and enhanced absorption, in its oral parathyroid hormone Caphthymone for osteoporosis and in its oral calcitonin product for osteoarthritis pain.

Bone was unchanged at 0.1 cents with 2.2 million shares traded.

## BIONOMICS

Bionomics says it has begun pharmacology and toxicology analyses of cancer stem cell drug BNC101 for a US Food and Drug Administration investigational new drug application. Bionomics acquired BNC101 with Biogen Idec spin-out Eclipse Therapeutics, last year (BD: Sep 17, 2012).

Bionomics chief executive officer Dr Deborah Rathjen said the "initiation of this safety program is a major milestone in the drug development process of BNC101".

"The fact that Bionomics achieved this milestone less than a year from the acquisition of this asset is a demonstration of our commitment to being a leader in the cancer stem cell therapeutic space," Dr Rathjen said.

Bionomics said that BNC101 was a humanized monoclonal antibody targeting LGR5 and had demonstrated functional activity against cancer stem cells from primary colorectal cancer patient samples.

The company said that in preclinical studies BNC101 significantly reduced cancer stem cell frequency in-vivo and prevented tumor regrowth in long term studies.

Bionomics said that BNC101 also increased survival and inhibited weight loss in a cachexic, or muscle wasting, colorectal cancer tumor model.

The company said that to date BNC101 had shown no evidence of toxicity in preliminary safety analyses.

Bionomics was up one cent or 2.5 percent to 41 cents.

## CELLMID

Cellmid and London's Abcodia will collaborate to testing midkine in longitudinal serum samples targeting validation of midkine as an early marker of colorectal cancer.

Cellmid said that Abcodia was a biomarker validation company with "exclusive access" to a bio-bank of 5,000,000 serum samples collected through the UK Collaborative Trial for Ovarian Cancer Screening and would test of midkine in their collection of longitudinal serum samples using Cellmid's midkine enzyme-linked immunosorbent assay (MK-Elisa). The company said that the initial objective of the collaboration was to validate midkine as a useful marker for the screening and early diagnosis of colorectal cancer with serum samples provided by Abcodia and testing by Cellmid.

Cellmid said that Abcodia's bio-bank was derived from 200,000 initially healthy volunteers and since recruitment more than 27,000 individuals had been diagnosed with cancer.

The company said that 50,000 individuals within the 200,000 cohort provided samples annually providing "a unique longitudinal resource for testing midkine levels early, even before symptoms appear".

Cellmid said that the collaboration allowed for the testing of multiple cancer indications, initially targeting the early detection and screening of colorectal cancer, the third in incidence and second in cancer-related mortality in the US.

Abcodia chief executive officer Dr Julie Barnes said that midkine was "an intriguing marker and I hope that we can reveal an interesting profile in the early pre-symptomatic phase of colorectal cancer".

"The uptake of current screening methods for colorectal cancer, colonoscopy and haemoccult testing, is low and a simple blood test could help significantly improve early diagnosis and therefore improve treatment outcomes," Dr Barnes said.

Cellmid chief executive officer Maria Halasz said the collaboration was "an exceptional opportunity for Cellmid to take part in the development of an important cancer diagnostic test".

Cellmid was unchanged at 3.1 cents with 4.7 million shares traded.



## COMPUMEDICS

Compumedics says it has a \$US300,000 (\$A324,367) order from Qatar for its Neuvo long-term electroencephalogram monitoring system.

Compumedics said the order was “further evidence of the advanced features of the Neuvo LTEM system compared to their competitors”.

The company said that the global neuro-diagnostic market including long-term electroencephalogram monitoring (LTEM) was about \$500 million a year.

Compumedics said that it had shipped sales of about \$27 million, compared to \$27.9 million for the previous corresponding year, despite the working capital constraints for most of the year to June 30, 2013.

The company said it would report a loss for the year to June 30, 2013 but it was expected to be “significantly less than the previous year” of \$2,829,000 and it expected to return to profitability during the first half of 2013-’14.

Compumedics chairman Dr David Burton said that neuro-diagnostic market would be “a major growth focus for the company and validates the company’s on-going product development activities”.

Dr Burton said the company had “initial footholds for these products in the key US and German medical devices markets, as well as in Australia”.

Compumedics was up 0.6 cents or 9.4 percent to seven cents.

## BIOTA PHARMACEUTICALS

Hunter Hall Investment Management says it has reduced its holding in Biota to 2,080,839 shares or 7.32 percent of the company.

In its last ASX statement on Biota in 2011, Hunter Hall said it held 24,781,543 shares or 13.66 percent of the company, equivalent to 3,097,693 US shares following the merger with Nabi Pharmaceuticals (BD: Aug 10, 2011; Apr 23, Oct 23, 2012).

In 2010, when Biota was trading at 98 cents, Hunter Hall held 14.14 percent of the company (BD: Dec 16, 2010).

On the Nasdaq last Friday, Biota closed down one US cent or 0.28 percent to \$US3.61 (\$A3.89) equivalent to 48.6 Australian cents pre-merger and consolidation.