



# Biotech Daily

Wednesday May 25, 2011

*Daily news on ASX-listed biotechnology companies*

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- \* **PHARMAXIS FALLS 74% ON EURO TREND VOTE AGAINST BRONCHITOL**
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## MARKET REPORT

The Australian stock market fell 0.95 percent on Wednesday May 25, 2011 with the S&P ASX 200 down 44.1 points to 4584.7 points. Seven of the Biotech Daily Top 40 stocks were up, 19 fell, nine traded unchanged and five were untraded.

Cellmid was best, up 0.3 cents or 11.1 percent to three cents with 54.8 million shares traded, followed by Benitec up 0.3 cents or 10 percent to 3.3 cents with 81.4 million shares traded. Psivida climbed 8.1 percent; Bionomics and Genetic Technologies both rose 2.22 percent; with Bioniche up one percent.

Pharmaxis led the falls, down \$2.17 or 74.1 percent to 76 cents with 24 million shares traded. Patrys, Prana and Tissue Therapies lost more than seven percent; Heartware, Mesoblast and QRX fell more than five percent; Impedimed and Phosphagenics were down more than three percent; Cathrx, Sunshine Heart and Viralytics shed two percent or more; with Acrux, Circadian, CSL, Living Cell and Starpharma down more than one percent.

## PHARMAXIS

Pharmaxis lost 74 percent of its value following a European regulatory 'trend vote' opposing approval of Bronchitol for cystic fibrosis.

Pharmaxis said it was considering its options which included an appeal or a further trial and a resubmission and said that any European delay could also slow preparation of its US regulatory application.

In a teleconference, Pharmaxis executives said they did not know the details of the vote which could have included up to 27 European Union member country representatives.

Pharmaxis chief executive officer Dr Alan Robertson said the two key issues raised by the Committee for Medicinal Products for Human Use were heterogeneity of the trial results and clinical meaningfulness.

Chief operating officer Gary Phillips said there was variability in the responses with inconsistent responses in the adolescent group, despite more uniform responses with both adults and children.

Pharmaxis released its trial data last year showing that although Bronchitol improved lung function by 8.6 percent ( $p < 0.001$ ), Bronchitol (400mg mannitol) was superior to placebo (50mg mannitol), at the non-significant  $p = 0.059$  level.

Pharmaxis said at that time that the result for the primary endpoint could have been affected by factors among non-US trial patients benefiting from the control dose.

Today, Pharmaxis said that following an oral explanation to the Committee for Medicinal Products for Human Use, the trend vote opposed approval.

Pharmaxis said it did not expect the Committee to change its vote at the formal June 23, 2011 meeting and was preparing for a re-examination or appeal process.

Pharmaxis said it was hopeful that a re-examination with new reporting countries and an EU appointed scientific advisory panel could lead to approval by November 2011.

"We were somewhat surprised and disappointed by the outcome," Dr Robertson said.

"We have not yet convinced European regulatory authorities that the benefit [of Bronchitol] outweighs the risks," Dr Robertson said.

He said there had been no safety issues raised and that since January 2009 there had been eight European re-examinations with three successfully allowed.

Dr Robertson said the potential rejection was no different to the difficulties the company faced with the Aridol asthma diagnostic at the US Food and Drug Administration.

Aridol is approved in Australia, Europe, the US and South Korea. Bronchitol has been approved for use in Australia and is awaiting Pharmaceutical Benefits Scheme listing.

Pharmaxis said if the re-examination was unsuccessful, it could conduct an additional trial and resubmit a European application or withdraw its application before the June final decision and resubmit an application at a later date.

Dr Robertson said staff limitations meant that the re-examination would slow preparation of its FDA marketing application.

Pharmaxis said that at March 31, 2011 it had \$56 million and would reduce its cash burn.

The company said all patients with cystic fibrosis had difficulty in breathing and in clearing their lungs and people born with cystic fibrosis will die at an unacceptably early age from respiratory failure, so there was a high unmet medical need.

Dr Robertson said the clinical benefit of Bronchitol was clear and that clinicians wanted the drug approved.

"There are no questions or issues raised, we can't deal with," Dr Robertson said.

"The re-examination allows for a change of label and if we do go to a re-examination we have firm grounds to believe we will succeed," Dr Robertson said.

Pharmaxis closed down \$2.17 or 74.1 percent to 76 cents with 24 million shares traded.

\* Biotech Daily editor David Langsam acquired Pharmaxis shares today.

## MARC SINATRA'S BIOGUIDE BRIEF: PHARMAXIS

Why I wasn't holding PXS.

I have been burnt by biotech before.

When the old Metabolic announced the results from its second phase II trial for obesity two weeks early, I was still holding. Surprise, your net worth has just dropped by 50 percent. Have a nice day.

Last year, I kept my faith in Chemgenex through the disastrous committee meeting that ultimately spelt the end for their new drug application for Omapro and its application in chronic myeloid leukemia patients' carrying the T315I mutation.

The Cephalon takeover meant I made a small profit, but the time value of money put me at a loss.

I can relate very well to the way the holders of Pharmaxis are feeling today.

To a certain extent, I was lucky. Pharmaxis was a nice story. What saved me from feeling the pain today was the review I did on them a few years back (BD: Oct 18. 2007).

While researching for that review, I learned about nebulised saline. From memory, it was first tried in cystic fibrosis patients in the 1970s. It never seemed to catch on, though.

Given the mechanism of action of nebulised saline is pretty much identical to that of Bronchitol, a seed of doubt was planted in my mind.

I still liked the Pharmaxis story, but not enough to value it as a clear 'buy' when I reviewed it for Biotech Daily. I gave it a value a just a bit above its share price, then \$4.69. Essentially, I played it cautiously.

I didn't buy any when their share price dropped. That seed was still there.

Bronchitol isn't dead, but it isn't looking good. The US Food and Drug Administration can be a bit pickier than the EMEA, so things aren't looking good there.

Also, if the drug doesn't work well enough for cystic fibrosis to gain approval, it is unlikely to work well enough for the other, less severe indications it is being targeted at.

To holders, I feel your pain and hope Bronchitol can eventually gain approval.

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\* Marc Sinatra is employed by Lodge Partners which does not cover Pharmaxis.

## WALTER AND ELIZA HALL INSTITUTE FOR MEDICAL RESEARCH

The Walter and Eliza Hall Institute says the Human Frontier Science Program has granted \$US2.25 million (\$A2.15million) for research into malaria and the immune system.

The Institute said its scientists were awarded two of 22 grants funded by the Strasbourg France-based Human Frontier Science Program in 2011.

WEHI said immunologist Dr Jose Villadangos and structural biologist Dr Matthew Call were awarded \$US1.2 million over three years to study a family of immune system-regulating proteins called membrane-associated RING-CH (March) proteins and would lead a collaboration with the University of Kansas's Dr Wonpil Im and Japan's Riken Research Centre for Allergy and Immunology, Dr Satoshi Ishido.

"We know the March proteins are key players in the immune system," Dr Villadangos said.

"A greater understanding of this highly significant family of proteins will ultimately lead us to develop new means to control the body's immune response," Dr Villadangos said.

Dr Call said the team would develop detailed molecular maps showing how March proteins associate with their targets and use structural information to design drugs that interfere with, or replace, the role of the March family.

"Such drugs might be useful to fight viral infections, boost the body's immune response against cancers, or dampen damaging autoimmune reactions," Dr Call said.

WEHI said infection and immunity division researcher Dr Jake Baum with the University of Heidelberg's Dr Friedrich Frischknecht and the University of Chicago's Dr Dave Kovar were awarded \$US1.05 million to investigate new methods of preventing malaria infection.

Dr Baum said the team would study the way the malaria parasite moves as a means of identifying drug targets, directed at internal malaria parasite proteins that help the parasite move, preventing it from entering cells and establishing infection.

"Our primary objective is to target key movement regulators to completely disable the malaria parasite," Dr Baum said. "If the parasite can't move, it can't infect the mosquito or human host and the disease won't have a chance to reproduce and spread."

WEHI said the researchers were studying the structural protein, actin, which controlled malaria parasite movement.

The Institute said that in the malaria parasite, actin spontaneously joined other actin proteins to form a long chain, which enabled the parasite to move.

The team will be investigating new targets that will disrupt the actin chain, effectively immobilizing the parasite.

"We will have three laboratories in three countries combining their scientific experience to understand actin at every level of biology, from atomic structure all the way through to the whole cell," said Dr Baum.

WEHI said the Human Frontier Science Program funded collaborative life science research, with grants awarded to scientists in different biological disciplines, working on a single innovative research project.

## PRIMA BIOMED

Prima says it hopes to raise \$38 million through the placement of 64.3 million shares at 28 cents a share raising \$18 million, with a share purchase plan to raise a further \$20 million. Prima said the money raised would fund its 800 patient phase III trials of its CVac immunotherapy vaccine for ovarian cancer.

Prima said shareholders at the record date of May 24, 2011 would be able to apply for parcels of shares up to \$15,000, with the ability to accept applications above that amount. The company said the plan would open on June 3 and close on June 24, 2011.

Prima was in a trading halt at 33.5 cents.

## CELLMID

Cellmid says licensee Celera's lung cancer diagnostic has shown 83 percent sensitivity and 83 percent specificity in non-smoking lung cancer patients.

Cellmid said the California-based Celera assay was tested in a study involving more than 600 blood samples and the results were presented on in April 2011 at the American Association for Cancer Research meeting in Orlando, Florida.

Cellmid has licenced its midkine assets to Celera as a biomarker for the early diagnosis, prognosis and disease monitoring of lung cancer to be used in Celera's proprietary biomarker panel.

Although it was not specifically stated in today's media release, Biotech Daily believes that at least one of the biomarkers on the six biomarker panel is midkine.

The company said Celera expects to use this panel of biomarkers when computer axial tomography (CT) tests showed irregularities in patients.

Celera's associate director of product development Dr Charlie Birse said that "in addition to intentional CT scans for lung cancer, many people undergo chest scans for heart disease prevention or other conditions and incidental nodules appear in the lungs that may or may not be benign".

"This panel of biomarkers would allow these imaging tests to be further evaluated and provide a degree of certainty in diagnosis," Dr Birse said.

Cellmid chief executive officer Maria Halasz said lung cancer was the leading cause of cancer deaths.

"Up to 85 percent of people with lung cancer are diagnosed in late stages and have less than 15 percent chance of survival beyond five years," Ms Halasz said.

"Given early diagnosis up to 60 percent of lung cancer patients may survive for five years or longer," Ms Halasz said. "Clearly, this represents a significant opportunity to improve clinical outcome."

Cellmid said that although most lung cancers were attributable to tobacco smoking about 20 percent of all lung cancer patients never smoked.

The company said Celera was expected to conduct further validation trials on additional specimens using the six biomarker panel.

Cellmid was up 0.3 cents or 11.1 percent to three cents with 54.8 million shares traded.

## BENITEC

Benitec says the Japanese Patent Office will grant a patent entitled 'Multiple promoter expression cassettes for simultaneous delivery of RNAi agents'.

Benitec said the claims covered the use of an RNA-interference construct, with multiple promoters, to inhibit the level of hepatitis C virus in cells, tissues and organs.

The company said that it had licenced the exclusive rights to the hepatitis C patent to Tacere Therapeutics which was working with Pfizer to further develop and commercialize Tacere's anti-HCV ddRNAi compounds.

Benitec said hepatitis C was a major disease burden on the world with the World Health Organisation estimating in 1999 a worldwide prevalence of about three percent with the virus affecting 170 million people worldwide.

Benitec chief executive officer Dr Peter French said the intention of the Japanese Patent Office to grant the patent was "an important addition to our already broad and robust patent portfolio in DNA-directed RNAi, and complements the already granted patents for this work in Europe, the United States, Australia and New Zealand".

Benitec was up 0.3 cents or 10 percent to 3.3 cents with 81.4 million shares traded.

## VIRALYTICS

Viralytics says published results from its phase I clinical trial of Cavatak in late stage melanoma patients is encouraging for a phase II trial this year.

The paper entitled "A phase I, open label, cohort study of two doses of Coxsackievirus A21 given intratumorally in stage IV melanoma" will be presented by Viralytics chief scientific officer Dr Darren Shafren at the American Society of Clinical Oncology meeting in Chicago on June 5, 2011.

A copy of the abstract is available at [http://abstract.asco.org/AbstView\\_102\\_80971.html](http://abstract.asco.org/AbstView_102_80971.html).

The paper said Coxsackievirus A21 or CVA21 or Cavatak was a naturally occurring Picornavirus, which induced mild upper respiratory symptoms during natural infection of humans, but displayed potent oncolytic activity against both in vitro cultures of cancer cells and in vivo xenografts of human cancers in mouse models of melanoma, prostate cancer, breast cancer and multiple myeloma, all which exhibit high surface ICAM-1 expression. The abstract concluded that "potential anti-tumor activity and patient tolerability of intra-lesionally delivered CVA21, provides a solid foundation for phase II investigations employing a multi-dose schedule to study the efficacy and safety of CVA21 in patients with late stage melanoma and other advanced solid cancers".

In the phase I trial a single cutaneous melanoma deposit in nine stage IV melanoma patients of three cohorts of three patients was injected with two doses of CVA21 (1.0 x10<sup>7</sup> TCID<sub>50</sub> or 1.0 x10<sup>8</sup> TCID<sub>50</sub> or 1.0 x10<sup>9</sup> TCID<sub>50</sub>) 48 hours apart.

Following CVA21 injections, five of nine patients (55.6%) experienced transient or stable reductions in injected tumor volume or tumor stabilization.

The abstract said that no objective responses were observed, but two patients displayed stable disease.

CVA21 viral RNA was detected by in three of five injected lesions on trial termination, even in the presence of high level serum anti-CVA21 neutralizing antibody.

The abstract said that elevated levels of serum GM-CSF were observed from two patients displaying notable reductions in the volume of injected lesions, suggesting a possible immune-mediated anti-tumor response.

The abstract said that no evidence of post-injection CVA21 excretion in urine, feces and sputum was observed.

Viralytics chairman Bryan Dulhunty told Biotech Daily that the results were very encouraging.

"Each of the nine patients received a single dose to one tumor so any result was highly encouraging," Mr Dulhunty said.

"In the phase II trial each patient will receive 10 doses in up to 10 tumors at a time," Mr Dulhunty said.

He said the company was awaiting US Food and Drug Administration investigational new drug application approval for trial which expected to begin this year.

Viralytics fell 0.2 cents or 2.1 percent to 9.2 cents with 31.2 million shares traded.

## TISSUE THERAPIES

Tissue Therapies says its one-for-eight rights issue at 50 cents a share has raised \$4,300,045.50 from the issue of 8,600,091 shares.

Tissue Therapies said there was a shortfall of 10,032,553 shares in the rights issue which was fully-underwritten by RBS Morgans and the shares had been placed with sub-underwriters, raising a further \$5,016,276.50.

Last month, Tissue Therapies placed \$5.75 million (BD: Apr 15, 2011).

Tissue Therapies fell four cents or 7.4 percent to 50 cents.



## VIRAX

Virax hopes to raise up to \$2 million through a non-renounceable one for two share rights issue at 2.2 cents a share, with a \$1 million placement, pending shareholder approval . Virax said the placement would be determined by the level of support for the rights issue. The company said the funds were for the clinical development of its skin cancer vaccine TG1042 licenced from France's Transgene SA.

Virax said the record date for the rights issue was June 2, 2011, the offer opened on June 6 and closed on June 28, 2011 and Alpha Securities was the manager for the placements. Virax was unchanged at 2.6 cents.

## REVA MEDICAL

All resolutions at the Reva annual general meeting were passed overwhelmingly including one dealing with frequency of approval of executive compensation.

Under Section 951 of the 2010 US Dodd-Frank Wall Street reform and Consumer Protection Act, US companies are required to seek a non-binding advisory vote from stockholders on how frequently it should include a proposal regarding the approval of the compensation awarded to our executives.

Reva provided investors with options of one, two or three years and the directors supported a one year review, primarily for transparency and accountability purposes.

While Reva investors voting in the election supported the election of directors Anne Keating Brian Dovey and two other administrative resolutions by 25,264,584 votes to nil, the Dodd-Frank frequency of compensation resolution was divided with 23,346,910 votes in favor of yearly approvals, no votes for two-yearly approvals and 1,647,406 votes for three-yearly approvals, with 270,268 votes abstaining.

The Dodd-Frank Act was introduced following the global financial crisis and addresses a range of issues including executive pay.

Reva was up half a cent or 0.45 percent to \$1.105.

## HELICON GROUP

Helicon says it will conduct due diligence on Ozpharma's intellectual property including the patented drug delivery technology Linguet.

Helicon said Linguet was designed to enhance efficacy and provide safer delivery of pharmaceutical ingredients through lower doses thereby reducing untoward side effects.

The company said Linguet was presented in a sublingual or buccal format and allowed to dissolve releasing the active drug which was then rapidly absorbed directly into the blood stream via the mucosa or inner lining of the mouth.

Helicon said Linguet enables a drug to by-pass the gastrointestinal tract and reach its target more rapidly and as a result had the potential to significantly improve the efficacy of many existing therapeutics.

Helicon managing director Fabio Pannuti said Linguet responded to an issue in drug delivery with advances that previously constrained the wider adoption of the technology.

Helicon fell 0.2 cents or 6.25 percent to three cents.