



# Biotech Daily

Wednesday June 18, 2014

*Daily news on ASX-listed biotechnology companies*

- \* **ASX DOWN, BIOTECH UP: OPTISCAN UP 23%, IDT DOWN 11%**
- \* **VICTORIA \$6m FOR FOUR PROJECTS; MEDICAL TECHNOLOGY PLAN**
- \* **NOVOGEN PROVES CONCEPT OF TRX-1 FOR OVARIAN CANCER**
- \* **LBT PLACEMENT RAISES \$1.5m, SHARE PLAN FOR \$1.5m MORE**
- \* **COMPASSIONATE USE MS PATIENTS 'BENEFIT FROM INNATE MIS416'**
- \* **ATCOR, SUNTECH LAUNCH 24-HR OSCAR 2 BP MONITOR**
- \* **US GRANTS PATRYS 3<sup>rd</sup> PAT-SM6 PATENT**
- \* **CHINA PATENT FOR DRAWBRIDGE PHAXAN**
- \* **BIOPROSPECT CARDIAC MENTAL ILLNESS TEST IN THE CLOUD**

## MARKET REPORT

The Australian stock market fell 0.33 percent on Wednesday June 18, 2014 with the S&P ASX 200 down 18.0 points to 5,382.7 points.

Fifteen of the Biotech Daily Top 40 stocks were up, 13 fell, nine traded unchanged and three were untraded.

Optiscan was the best, up 0.7 cents or 23.3 percent to 3.7 cents with 4,000 shares traded, followed by Osprey up 15.4 percent to 60 cents with 167,317 million shares traded.

Bionomics climbed 10 percent; Benitec was up 8.5 percent; Prana rose 7.7 percent; Neuren was up 6.1 percent; Biotron was up 4.35 percent; Sirtex climbed 3.8 percent; Atcor Clinuvel, Prima and Uscom rose more than two percent; Nanosonics and Viralytics were up more than one percent; with CSL and Medical Developments up less than one percent.

IDT led the falls, down 2.5 cents or 11.1 percent to 20 cents with 85,571 shares traded.

Genetic Technologies, Starpharma and Universal Biosensors lost more than five percent; Mesoblast fell 4.9 percent; Acrux, Antisense and Patrys were down more than three percent; Analytica and Impedimed shed more than two percent; Pharmaxis, Phosphagenics and Tissue Therapies were down more than one percent; with Cochlear and Resmed down by less than one percent.

## VICTORIA GOVERNMENT

The Victoria Government says it will provide \$6 million for four projects under the Health Market Validation Program.

A Victoria government media release said that the Health Market Validation Program was a \$15 million to promote demand-driven innovation in Victoria's healthcare system.

The media release said that the program partnered Victorian health agencies with innovative small-to-medium enterprises to improve health service delivery by developing new, market-ready technology.

The Victoria Government said that the program offered grants of up to \$100,000 for feasibility studies and up to \$1.5 million for selected projects to undertake a validation stage to demonstrate new technology solutions in clinical environments.

The projects include:

MTMM Pty Ltd working with Alfred Health on a bidirectional cannula to allow full circulatory support to avoid the risk of complications to limbs during surgery;

Medtech Healthcare partnering with Peninsula Health to develop a remote monitoring system for chronic heart failure patients to automatically report personal health data to their health service via the internet or portable smart devices;

Perfusion Solutions working with Alfred Health on a preservation technique for donor organs using perfusion instead of ice storage to slow degeneration during removal and storage of donated organs; and

APS Innovations partnering with Dental Health Services Victoria to develop a plaque removal device, so people with difficulty using a toothbrush can clean their teeth more effectively.

For more information go to: [www.business.vic.gov.au/hmvp](http://www.business.vic.gov.au/hmvp).

Separately, Victoria's Minister for Technology Gordon Rich-Phillips said that the State Government was developing a medical technology industry strategy.

A Victoria Government media release said the strategy would "position Victoria as an internationally-competitive developer of medical technology" and provide new opportunities for the State's manufacturing sector.

"The [medical technology] sector is showing strong growth internationally, driven by increased need from ageing populations in developed markets and increased demand in emerging markets," Mr Rich-Phillips said.

The media release said that leading the stakeholder consultation phase of the strategy was former Circadian chief executive officer Robert Klupacs, who was a member of the Victorian Biotechnology Advisory Council and was examining the medical technology development life cycle and opportunities for supporting sectoral growth.

## LBT INNOVATION

LBT says it has raised \$1.5 million through a placement at 13.5 cents a share and hopes to raise a further \$1.5 million through a share plan.

LBT said the funds would support its automated plate assessment system (APAS) clinical trial program; progress line extension products for the system; and a proof-of-concept study for its Woundvue technology to automate the management of chronic wounds.

LBT said the placement would be in two tranches with the second tranche of \$1.1 million subject to shareholder approval.

The company said the record date for the share plan would be June 13, 2014, with further details to be announced.

LBT fell 3.5 cents or 21.9 percent to 12.5 cents with 1.2 million shares traded.

## NOVOGEN

Novogen says that pre-clinical proof-of-concept studies confirm the potency of peritoneal cavity-delivered Trx-1 for primary ovarian cancer.

Novogen said that studies were conducted through its Cantx joint venture with Yale University and based on the potency seen in animal models and the potential to prevent recurrence, Novogen and Cantx believe that intra-peritoneal Trx-1 could be a first-line therapy for ovarian cancer.

The company said that Trx-1 was being developed for the treatment of ovarian cancer, particularly for its ability to kill chemo-resistant ovarian cancer stem cells.

Novogen said that Cantx planned to file an investigational new drug application with the US Food and Drug Administration in early 2015 and to start a phase I study by mid-2015.

The company said that the pre-clinical showed that Trx-1 could significantly retard the growth of highly chemo-resistant, human ovarian cancer stem cells in an animal model considered to be highly representative of the human situation.

Novogen said that Yale School of Medicine professor of obstetrics, gynecology and reproductive science Prof Gil Mor presented the Trx-1 data at the Drug Discovery and Therapy World Congress in Boston, Massachusetts from June 16 to 19, 2014.

"Ovarian cancer is the most lethal of all the gynecologic malignancies," Prof Mor said.

"These tumors are made up of two distinct kinds of cells: cancer stem cells that initiate and perpetuate the tumor and which resist all forms of chemotherapy, and their daughter cells that, in most patients, respond initially to chemotherapy," Prof Mor said.

"Where there is an initial response to therapy, it is because the chemo-sensitive daughter cells that make up the bulk of the tumor have responded," Prof Mor said.

But the parent cancer stem cells then respond by generating a new generation of daughter cells that now display the same level of chemo-resistance as the parent cells," Prof Mor said.

"This is why when ovarian cancer recurs it is so difficult, if not impossible, to treat," Prof. Mor said.

"An obvious strategy is to be more successful in treating primary disease, so that we stop the development of recurrent disease. We need to be able to kill the ovarian cancer stem cells before they have the chance to produce a second generation of highly chemo-resistant daughter cells," Prof Mor said.

"This is the first time that we've seen a compound have such a profound effect on tumor growth and tumor burden in this highly aggressive ovarian cancer animal model," Prof Mor said.

"The current animal studies were all about proving the concept that an intra-peritoneal administration of Trx-1 was capable of reducing tumor burden and carcinomatosis, the main cause of patient mortality," Prof Mor said.

"We achieved this objective by preventing the renewal and survival of human ovarian cancer stem cells," Prof Mor said.

"This is a first important step in our goal of making progress in the treatment of this insidious disease," Prof Mor said.

"We believe that this now provides the platform for delivering a killer blow by combining Trx-1 with conventional chemotherapy as a first-line therapy and successfully removing all the cellular components of the tumor," Prof Mor said.

Novogen and Cantx chief executive officer Dr Graham Kelly said that the result "elevates our hopes for Trx-1 beyond the usual recovery of patients with late-stage ovarian cancer, to the exciting prospect of incorporating it into first-line therapy in combination with conventional chemotherapy".

Novogen was up one cent or 6.7 percent to 16 cents with 3.1 million shares traded.

## INNATE IMMUNOTHERAPEUTICS

Innate says that secondary progressive multiple sclerosis patients treated with MIS416 are showing continued benefit without significant dose intolerance or toxicity.

Innate said that 24 patients had been treated under New Zealand compassionate use provisions, with 18 patients diagnosed with secondary progressive multiple sclerosis and six with the rarer primary progressive multiple sclerosis.

The company said the 24 patients were treated with MIS416 for six months or more, median treatment time was about 24 months, with an average 52 doses of MIS416 each. Innate said that the program could not prove safety or efficacy, but important information could be collected from the doctors and patients.

The company said that results from regular blood tests as well as self-reported health status outcomes continued to suggest that patients could receive weekly or fortnightly injections of MIS416 on a long-term and continuous basis without dose intolerance or cumulative toxicity and the majority of patients experienced sustained reductions in pain and fatigue, improvements in bladder control and improved social functioning.

Innate said that it had recorded sustained improvement in secondary progressive multiple sclerosis-related patient symptoms which was unusual, so any reported benefits could reasonably be attributable to the effect of MIS416,

Innate said that some of the reported improvements exceeded the literature-reported margins of normal variability and the persistence over time of reported effects argued against a simple placebo effect.

The company said that objective but unquantified improvements had been reported by some treating doctors and patients perceived the clinical benefits to be sufficient to warrant on going weekly or fortnightly visits to their doctor for treatment over an average of two years and in one case out to five and half years.

Innate was up 1.5 cents or 9.4 percent to 17.5 cents.

## ATCOR MEDICAL

Atcor says it has launched the 'Oscar 2 with Sphygmocor inside' 24-hour ambulatory blood pressure monitor system jointly developed with Suntech Medical.

Atcor said that the monitor combined Suntech's ambulatory blood pressure monitor system with its non-invasive central blood pressure monitoring Sphygmocor technology to enable periodic measurements to be captured over a 24 hour period.

In 2011 Atcor began a clinical trials distribution and data management agreement with the North Carolina-based Suntech and in 2012 the two companies formed a strategic alliance to improve blood pressure measurement, cardiovascular assessment and management (BD: Jul 27, 2011, Jan 23, 2012).

Today, Atcor said that ambulatory blood pressure monitor (ABPM) devices were designed to be worn over a 24-hour period and.

The company said that the devices assisted physicians in understanding patients blood pressure and its variability throughout periods of activity and rest.

Atcor said that the new device would be jointly marketed with Suntech, with Atcor taking the lead role in the pharmaceutical clinical trials market and Suntech in the clinical practice and research market.

The company said that ABPM devices were widely used in pharmaceutical clinical trials with approximately 60 percent of global sales being to this market segment.

Atcor said that it expected that the Oscar 2 with Sphygmocor inside would enter regulatory approval phase shortly and will be available for sale later in 2014.

Atcor was up 0.2 cents or two percent to 10 cents.

## PATRYS

Patrys says it has been granted a third US patent for PAT-SM6, entitled 'Adenocarcinoma specific antibody SAM-6 and uses thereof' providing protection to November 2024. Patrys said that the patent covered a method of treatment for various cancers including a broad set of proliferative disorders and it was one of a series of patent applications submitted to cover the PAT-SM6 product, target and mechanism of action. The company said it was granted a patent by the US Patent and Trademark Office in 2012 that contained claims covering the mechanism of action of PAT-SM6 and in November 2013, it was granted an Australian patent with claims that cover methods of use of PAT-SM6 for the treatment of various cancers including multiple myeloma. Patrys chief executive officer Dr Marie Roskrow said that the new patent "goes a step further in protection for our lead antibody PAT-SM6 and is in line with Patrys' intellectual property strategy to pursue multiple filings to enable broad multi-layered protection". Patrys fell 0.1 cents or three percent to 3.2 cents with 4.8 million shares traded.

## DRAWBRIDGE PHARMACEUTICALS

Drawbridge says that China has granted the patent, entitled 'Anaesthetic Formulation' providing coverage to 2031. Drawbridge chief executive officer Dr Anthony Filippis said the patent added value "as the demand for anaesthetic drugs in China was continuing to grow at a fast pace". Drawbridge said it had completed a proof-of-concept clinical trial comparing the anaesthetic properties of Phaxan with propofol, confirming that Phaxan was as fast as propofol in onset and offset of anaesthesia with improved cardiovascular and respiratory safety (BD: Apr 16, 2014). Drawbridge is a private company.

## BIOPROSPECT

Bioprospect says it has partnered with Dentsu Aegis Network subsidiary Isobar to develop an internet cloud-based, mental health, smart phone application for consumers. Bioprospect recently acquired a mental health assessment diagnostic based on heart rate variability (BD: Apr 14, 2014). The company said that "the significant potential of the emerging consumer [electronic] health [application] market will provide a number of compelling opportunities to monetize [its] mental health technology particularly in the short term whilst it undertakes further validation on its key technology". Bioprospect said the proposed application would be an internet cloud-based internetworking operating system and android application integrating its algorithms, allowing consumers to monitor, quantify and assess their level of stress, particularly chronic stress, in the comfort and privacy of their own home. Bioprospect was originally commercializing Termilone termite eradication, became entangled with Solagran's pine needle extract for cancer and Alzheimer's disease before moving to oil and gas drilling (BD: Sep 24, 2009, Jun 2, 2011). Bioprospect fell 0.1 cents or 25 percent to 0.3 cents with 7.8 million shares traded.