

Biotech Daily

Monday March 30, 2015

Daily news on ASX-listed biotechnology companies

* ASX, BIOTECH DOWN: IDT UP 10%, CELLMID DOWN 8%

* PHYLOGICA: 'PHYLOMER-OMOMYC FUSION KILLS CANCER'

- * TUMOR VACCINE POTENTIAL FOR INNATE'S MS DRUG MIS416
- * NOVOGEN CANTRIXIL PRE-CLINICAL OVARIAN STEM CELL CANCER DATA
- * COMPUMEDICS WINS \$375k CHINA BRAIN INJURY TEST DEAL
- * GENETIC SIGNATURES LISTS ON ASX TOMORROW
- * NUSEP IVF COLLABORATION WITH NEWCASTLE UNIVERSITY
- * SIMAVITA REQUESTS ASX, TSX COMPLIANCE, PLACEMENT HALT
- * RHINOMED REQUESTS MUTE DISTRIBUTOR TRADING HALT

MARKET REPORT

The Australian stock market fell 1.25 percent on Monday March 30, 2015 with the S&P ASX 200 down 73.8 points to 5,846.1 points.

Ten of the Biotech Daily Top 40 stocks were up, 18 fell, 11 traded unchanged and one was untraded.

IDT was the best for the second trading day in a row, up two cents or 9.8 percent to 22.5 cents with 542,115 shares traded.

Clinuvel and Pharmaxis climbed four percent or more; both Biotron and GI Dynamics were up 3.6 percent; Antisense and Nanosonics rose more than two percent; with Bionomics, Ellex, Resmed and Sirtex up more than one percent.

Cellmid led the falls, down 0.2 cents or 8.3 percent to 2.2 cents with 3.1 million shares traded.

Genetic Technologies and Osprey lost more than six percent; Atcor and Universal Biosensors fell five percent or more; Acrux, Analytica and Tissue Therapies fell more than four percent; Admedus, Benitec and Phosphagenics shed more than two percent; Anteo, Avita, Living Cell, Neuren and Starpharma were down more than one percent; with Cochlear, CSL, Medical Developments and Mesoblast down by less than one percent.

PHYLOGICA

Phylogica says that its cell-penetrating peptides linked with Omomyc kill aggressive drug resistant breast cancer cells in an unnamed in-vivo model.

Phylogica said that a pilot study at the Harry Perkins Institute of Medical Research, formerly known as the Western Australia Institute of Medical Research, by Prof Pilar Blancafort showed that its cell penetrating peptides fusion "significantly improved the efficacy of existing anticancer drugs including the antibody cetuximab and the chemotherapy agent docetaxel".

The company said that a combination of cetuximab and a Phylomer cell penetrating peptide-Omomyc fusion was more than three times more effective at killing drug resistant breast cancer cells than either of these agents alone.

Prof Blancafort said that the ability to combine drugs to treat breast cancer was "particularly exciting as it has the potential to lower the likelihood of resistance, improve drug activity and reduce chemotherapy side-effects".

Phylogica said Prof Blancafort tested the activity of Phylogica's cell penetrating peptide (CPP) fusion in an in-vivo breast cancer model and "a substantial reduction in tumor size was observed in tumors injected with Phylogica's CPP fusion when compared to controls", but the pilot study needed to be repeated using larger groups to confirm its significance. Phylogica chief scientific officer Dr Paul Watt said the company was "not expecting such a striking result from the pilot study".

"We believe this is the first time anyone has shown a CPP-Omomyc fusion protein to be active in-vivo, as to our knowledge Omomyc has only previously been successfully delivered to tumors using a complex gene therapy approach, associated with significant regulatory hurdles to clinical application," Dr Watt said.

Phylogica chief executive officer Dr Richard Hopkins said that the ability of Phylogica's delivery system to kill cancers from the inside and improve the efficacy of existing drugs was "a potential paradigm shift for cancer therapeutics because it opens up the intracellular target landscape to next generation biologics drugs such as proteins". Phylogica climbed as much as 2.8 cents or 107.7 percent to 5.4 cents before closing up 2.2 cents or 84.6 percent at 4.8 cents with 192.5 million shares traded.

INNATE IMMUNOTHERAPEUTICS

Innate says that a vaccine containing its MIS416 "significantly prolonged survival in tumorbearing mice".

Innate said that a collaboration began in 2011 with researchers at the Buffalo, New Yorkbased Roswell Park Cancer Institute to develop a vaccine that could be used to prevent the reoccurrence of epithelial ovarian cancer following chemotherapy and surgery, with MIS416 as a component of the vaccine.

The research paper, entitled 'Targeting myeloid cells in the tumor microenvironment enhances vaccine efficacy in murine epithelial ovarian cancer' was published in the journal Oncotarget and an abstract is at: <u>http://tinyurl.com/oncotarget-Khan</u>.

Innate said the study reported that in the animal models, the vaccine containing MIS416 significantly prolonged survival in tumor-bearing mice, an effect further enhanced if a certain type of myeloid cell in the tumor microenvironment was targeted with a monoclonal antibody designed to deplete these myeloid cells.

Innate is conducting a phase IIb trial of MIS416 for secondary progressive multiple sclerosis (BD: Nov 11, 2014) and chief executive officer Simon Wilkinson told Biotech Daily that five sites were open with "steady recruitment towards the target of 90 patients". Innate was unchanged at 18.5 cents.

<u>NOVOGEN</u>

Novogen says its Cantrixil is "highly effective at killing human ovarian stem [or tumorinitiating] cells".

Novogen said that Cantrixil was a construct of the cytotoxic anti-cancer drug candidate, TRXE- 002-1, in a cyclodextrin, or sugar, ball and had been shown in both mouse models and in-vitro to be effective against the stem cells, that were otherwise highly resistant to standard of care cytotoxic drugs and which were believed to be responsible for disease recurrence following initial therapy.

The company said that researchers were "keen to understand how the active ingredient in Cantrixil, TRXE-002, is able to achieve this effect where other drugs have failed".

Last year when the results were first released, Novogen said that Cantrixil passed an animal model of first-line therapy in ovarian cancer and a follow-up study was conducted to test efficacy in an animal model of refractory ovarian cancer (BD: Nov 7, 2014).

Today, Novogen said that the data showed that Cantrixil specifically activated the JNK-Jun pathway leading to mitochondrial damage and the induction of genes associated with cell death, or apoptosis, and also blocked the survival pathway pERK.

The company said the combination of the down-regulation of pro-survival and upregulation of pro-death pathways, provided "a unique advantage to target chemo-resistant cancer stem cells".

Novogen said the data from the pre-clinical studies were presented by Yale Medical School's Prof Gil Mor at the Society of Reproductive Investigation meeting in San Francisco, California, from March 25 to 28, 2015.

Novogen said that Cantrixil was due to enter its first-in-man study in late-2015 enroling patients with the terminal condition, malignant ascites, associated with late-stage abdominal carcinomatosis of various types of cancer, but mainly targeting ovarian cancer and colorectal cancer.

Novogen was up three cents or 15.8 percent to 22 cents with 16.0 million shares traded.

COMPUMEDICS

Compumedics says it has a \$375,000 deal to supply its brain vascular diagnostic Doppler-Box technology to military hospitals in China for traumatic brain injury diagnosis.

Compumedics said that the agreement, through its Singen, Germany-based, brain bloodflow Doppler-sonography division, Compumedics Germany GmbH (DWL), would "build its reputation and footprint in China, cementing DWL's position as one of the world's leading suppliers of brain blood-flow technology".

DWL managing director Christoph Witte said the contract was "an important achievement for DWL and its parent company Compumedics, as it underpins DWL's superior reputation in this market sector".

"In the past year, DWL's business in China has grown from EUR1.4 million to EUR1.8 million, an increase of 29 percent," Mr Witte said.

"DWL sees other opportunities to extend this window of potential for future business with the country's military hospitals due to its low cost technology," Mr Witte said.

Compumedics chairman Dr David Burton said that the DWL business "continues to expand its presence in global markets and winning this deal provides an excellent opportunity for DWL to continue to build a significant presence in China".

"More importantly, it shows that all parts of the Compumedics Group remain focused on renewing growth, as we continue to strengthen our market and financial position," Dr Burton said.

Compumedics was unchanged at 13 cents.

GENETIC SIGNATURES

Genetic Signatures expects to list on the ASX under the code GSS tomorrow, Tuesday, March 31, 2015.

Genetic Signatures raised \$7.5 million in an initial public offer at 40 cents a share to commercialize its pathogen diagnostic kits (BD: Nov 20, 2014).

NUSEP

Nusep says it has a revised agreement for human and animal assisted reproduction with the University of Newcastle technology transfer arm Newcastle Innovation.

Nusep said that it had worked with the University of Newcastle for "a number of years" developing the Spermsep laboratory instrument for sperm selection.

The company said it held patents and developed membrane technology for separating components of biological materials as well as the laboratory instruments and industrial processes, while the University had extensive know-how and expertise in human and animal fertility and had patented the application.

Nusep chairman Alison Coutts said that last year the company "redirected its focus on sperm selection technology".

"We are looking to trial and commercialize the Spermsep technology through collaboration with the [University]," Ms Coutts said. "We look forward to further developing our relationship with the University to make Spermsep a leading technology in assisting the success of [in-vitro fertilization] and [artificial insemination] processes."

The University of Newcastle's pro-vice-chancellor of the Faculty of Health and Medicine and chair of Nusep scientific advisory board Prof John Aitken said the University was "looking forward to building on our relationship with Nusep to further develop the Spermsep technology and assist in taking it to clinical trials and beyond".

Nusep said that the University's research team was led by Prof Aitken.

The company said that the terms of the agreement were confidential.

Nusep said that with the University of Newcastle it was preparing for multi-centre in-vitro human in-vitro fertilization clinical trials and continued to research equine reproduction. Nusep was untraded at 4.5 cents.

<u>SIMAVITA</u>

Simavita has requested a trading halt to ensure consistency and compliance between the ASX and the Toronto Stock Exchange Venture Exchange and to finalize a proposed placement.

Trading will resume on April 1, 2015 or on an earlier announcement. Simavita last traded at 50 cents.

<u>RHINOMED</u>

Rhinomed has requested a trading halt pending an announcement "in relation [to the] appointment of an Australian pharmacy distribution group for its Mute product. Trading will resume on April 1, 2015 or on an earlier announcement. Rhinomed last traded up 0.2 cents or 10 percent to 2.2 cents.