



Biotech Daily

Tuesday November 14, 2017

Daily news on ASX-listed biotechnology companies

- * **ASX DOWN, BIOTECH UP: ADMEDUS UP 10%; ACTINOGEN DOWN 6%**
- * **DENDRIGHT STARTS DEN-181 RHEUMATOID ARTHRITIS PHASE Ib TRIAL**
- * **XL-PROTEIN'S PASYLATION EXTENDS ADALTA'S AD-114 ACTIVITY**
- * **PARADIGM CLAIMS PPS SUCCESS FOR BONE BRUISING**
- * **VIRALYTICS: EARLY CAVATAK, KEYTRUDA CANCER DATA 'PROMISING'**
- * **MACH7 ADDS ZEBRA ARTIFICIAL INTELLIGENCE TO RADIOLOGY**
- * **ADMEDUS CARDIOCEL 3D NORTH AMERICA SALES IN FEBRUARY 2018**
- * **RECCE REQUESTS 'FDA CORRESPONDENCE' TRADING HALT**
- * **US PATENT FOR IMMURON NASH COLOSTRUM TREATMENT**
- * **ESENSE RAISING \$2m, \$500k FROM MMJ; HARVEST ONE MARIJUANA DEAL**
- * **CRESO LAUNCHES ANIBIDIOL MARIJUANA FOR SWISS DOGS**
- * **RESPIRI BOARD SPILL, 34m DIRECTOR OPTIONS AGM**
- * **REGAL FUNDS TAKES 8% OF AVITA**
- * **ROBERT LEDERER, RTL GROUP TAKE 6% OF ANATARA**
- * **GREENCAPE TAKES 8.5% OF AIRXPANDERS**
- * **MICHAEL ABOLAKIAN, HISHENK TAKE 6.6% OF NOVOGEN**
- * **NAOS TAKES 12% OF BIOTECH CAPITAL**
- * **COCHLEAR APPOINTS COO DIG HOWITT EXECUTIVE DIRECTOR**

MARKET REPORT

The Australian stock market fell 0.88 percent on Tuesday November 14, 2017 with the ASX200 down 53.1 points to 5,968.7 points. Sixteen of the Biotech Daily Top 40 stocks were up, 10 fell, 12 traded unchanged and two were untraded.

Admedus was the best, up two cents or 9.8 percent to 22.5 cents with 880,605 shares traded. Reva climbed seven percent; Cellmid was up 5.3 percent; Prana improved 4.4 percent; Living Cell was up 3.3 percent; Airxpanders and Uscom rose more than two percent; with Bionomics, Compumedics, ITL, Medical Developments, Mesoblast, Pro Medicus, Resmed and Universal Biosensors up more than one percent.

Actinogen led the falls, down 0.3 cents or 5.7 percent to five cents with 1.6 million shares traded. Impedimed lost 5.2 percent; Avita fell four percent; Starpharma and Viralytics were down more than three percent; Orthocell shed 2.7 percent; with CSL, Factor Therapeutics and Opthea down more than one percent.

DENDRIGHT, UNIQUEST

Uniquet start-up Dendright Pty Ltd has begun a 58-patient, first-in-human, phase Ib trial of immunotherapy DEN-181 for rheumatoid arthritis.

Dendright said the randomized, double-blind, placebo-controlled study had single-ascending dose and multi-dose protocols and was designed to evaluate the safety, tolerability, pharmacokinetics and pharmacodynamics of subcutaneous DEN-181.

The company said that DEN-181 was a nanoparticle-based immunotherapy designed to regulate activated immune cells which caused inflammation, pain and joint damage in rheumatoid arthritis.

Dendright said that laboratory studies showed that activated immune cells could be regulated in an antigen-specific manner through nanoparticle-delivered signals and DEN-181 had “the potential to offer higher specificity of effect and lower toxicity than current treatments for [rheumatoid arthritis] given the lack of broadly suppressive effects on the immune system”.

The company said that DEN-181 was discovered and developed by researchers at the University of Queensland and commercialized by Uniquet with clinical program support from the not-for-profit Arthritis Queensland.

Dendright said the study would be conducted in anti-cyclic citrullinated peptide positive (CCP+) rheumatoid arthritis patients taking methotrexate, at Brisbane’s Translational Research Institute clinical research facility at Brisbane’s Princess Alexandra Hospital. Dendright said the trial would be led by Princess Alexandra Hospital rheumatologists Dr Phillip Vecchio and Dr Ameer Sonigra.

The company said that in 2013 it signed a research collaboration and licence option with Johnson & Johnson subsidiary, the US-based Janssen Biotech Inc and in 2016 the agreement was extended to cover funding for a phase I trial.

Dendright chief executive officer Helen Roberts said that “the first human dosing of DEN-181 marks significant progress for the rheumatoid arthritis program and we wish to thank all of our many development partners for their commitment and dedication to enabling this clinical milestone”.

“We anticipate the study to read-out first results from the single-ascending dose cohorts in mid-2018 and we will evaluate safety, tolerability and immune-modulation data from all subjects to refine the dosing ... [for] the multi-dose protocol,” Ms Roberts said.

“The clinical development path for DEN-181 will be further refined as we better understand the immune-modulation possible with DEN-181 in rheumatoid arthritis patients,” Ms Roberts said.

ADALTA

Adalta says it has an agreement with the Freising, Germany-based XL-protein GmbH to use its Pasylation technology for extended activity with AD-114 for fibrosis.

Adalta said that financial terms were not disclosed.

The company said a 2016 evaluation licence showed that Pasylation extended AD-114 circulating half-life in non-human primate studies, increasing the therapeutic effect.

Adalta chief executive officer Sam Cobb said that “for patients of chronic diseases, such as [idiopathic pulmonary fibrosis], therapies that can be administered less frequently tend to improve patient compliance and quality of life”.

“This agreement also ensures all commercial infrastructure is in place to support a successful partnering discussion and enable Adalta to out-license AD- 114 to a pharmaceutical partner,” Ms Cobb said.

Adalta was up 1.5 cents or 6.8 percent to 23.5 cents.

PARADIGM BIOPHARMACEUTICALS

Paradigm says its 11-patient phase IIa trial of pentosan polysulfate for bone marrow lesions “showed a statistically significant reduction in bone marrow lesion volume”. Paradigm said that the trial met its primary endpoint of safety and tolerability as well as the secondary endpoint of a reduction in bone marrow lesion volume in patients with bone marrow lesions, or bone bruising, associated with acute anterior cruciate ligament injury. The company said that nine of the 11 participants completed the course of treatment, while two withdrew for family and other reasons unrelated to pentosan polysulfate. Paradigm said that pentosan polysulfate was administered as a course of six intramuscular injections, twice weekly over three weeks.

The company said that all patients tolerated the injections, no serious adverse events were reported, there were no clinically significant changes in clinical laboratory parameters of haematology and biochemistry or physical examination findings during treatment or during the eight week follow-up period, demonstrating safety and tolerability. Paradigm said that bone marrow lesion volume was measured by magnetic resonance imaging (MRI) with the image reviewer blinded to the pre-and-post treatment images. The company said that the results showed a statistically significant reduction in knee effusion-synovitis volume.

Paradigm said that six of nine patients showed a reduction in bone marrow lesion volume and eight of nine had a reduction in effusion-synovitis volume.

The company said there were reductions in tibia lesion volumes and a significant reduction in lesion maximal area in lateral tibia ($p = 0.03$), total tibia ($p = 0.02$) and a significant reduction in effusion-synovitis volume in supra-patellar pouch ($p = 0.02$) and the total knee ($p = 0.01$) as well as effusion-synovitis maximal area in suprapatellar pouch ($p = 0.03$) and total knee ($p = 0.04$).

Paradigm said that clinical studies reported the natural history of bone marrow lesions and joint fluid in people with ruptured anterior cruciate ligament show slow reduction in lesion volume and joint fluid volume over a 12 to 24-month period post injury.

The company said that the pathology in the bone and overlying cartilage during this time was known to cause progressive joint damage, pre-disposing patients to long term changes and development of osteoarthritis.

Paradigm said the results indicated that pentosan polysulfate had the potential to significantly improve recovery from acute anterior cruciate ligament injury, with significant improvement in both bone marrow lesion volumes and effusion volumes, function improvement and improved long term outcomes for patients.

Paradigm’s chief scientific officer Dr Ravi Krishnan said that “to our current knowledge this is the first time a therapeutic agent has been reported to show statistically significant reduction in both [bone marrow lesion] volume and effusion synovitis volume within two months post-surgical reconstruction”.

“This clinical trial data provides support for further investigation of early pharmaceutical intervention of injectable PPS in the treatment of acute joint injuries to delay or halt the progression to post traumatic osteoarthritis,” Dr Krishnan said.

Paradigm chief executive officer Paul Rennie said “the statistically significant reduction of both bone marrow lesion volume and effusion-synovitis volume is very encouraging data”. The company said it was currently conducting a 100-patient, double-blinded, placebo-controlled, phase IIb trial of pentosan polysulfate for osteoarthritis and bone marrow lesions, as well as a 24-patient, phase IIa trial of PPS for viral-induced arthritis.

Paradigm was up 0.5 cents or 1.7 percent to 30.5 cents.

VIRALYTICS

Viralytics says early data from its 90-patient Keynote-200 trial of Cavatak with Keytruda for non-small cell lung cancer or metastatic bladder cancer is “promising”.

Viralytics said that the data was presented at the Society for Immunotherapy of Cancer meeting in National Harbor, Maryland November 8 to 12, 2017, by the former president of the Society, Dr Howard Kaufman, who acted as principal investigator on its Cavatak and pembrolizumab (Capra) trial and provided an overview of oncolytic viruses

The company said the Keynote-200 trial was being conducted in collaboration with Merck Inc to investigate intravenous Cavatak in combination with pembrolizumab, or Keytruda, in patients with advanced non-small cell lung cancer or metastatic bladder cancer.

Viralytics said that results from the early assessment of checkpoint naïve patients were presented and of the 28 patients, nine were not evaluable for target lesion response assessment by computed tomography (CT) scan due to early disease progression or study discontinuation.

The company said that for the remaining 19 evaluable patients, there was an apparent response, not confirmed in all patients, in three of six non-small cell lung cancer patients and five of 13 metastatic bladder cancer patients.

Viralytics said that 12 of the 19 patients remained on the study and, to date, the combination therapy was well-tolerated with no dose-limiting toxicities.

The company said that seven of 64 patients had treatment-related grade 3 or higher adverse events.

Viralytics said that initial data from an assessment of the tumor micro-environment, following biopsy of tumor tissues before and after Cavatak and pembrolizumab administration, showed “promising changes in the levels of the important biomarker PD-L1, including a significant increase to positive PDL-1 levels from a group of five patients who previously had negative or weak levels”.

“In general, elevated levels of PD-L1 correlate with improved outcomes with anti-PD-1 [and] PDL-1 checkpoint therapy in lung and bladder cancer,” the company said.

Viralytics said that data from several of its studies of Cavatak, or Cocksackievirus A21 showed “positive clinical and pre-clinical trial results”.

The company said the data showed progress in the ongoing Capra and Keynote-200 studies assessing Cavatak in combination with pembrolizumab (Keytruda), as well as the melanoma intra-tumoral Cavatak and ipilimumab (Mitci) trial.

Viralytics managing-director Dr Malcolm McColl said that “based on these promising results and our growing clinical momentum, we are now planning an aggressive expansion of our clinical trial program”.

“In the next three to six months, we intend to initiate four new phase Ib clinical studies of Cavatak across a range of indications and treatment settings, including new trials of Cavatak in head and neck cancer, colorectal cancer, uveal melanoma and [intra-venous] melanoma,” Dr McColl said. “In addition, our preclinical work on combining Cavatak with [indoleamine (2,3)-dioxygenase] inhibitors points to a potential new opportunity for Viralytics in the clinic.”

The company said that data from the phase Ib Capra trial for late-stage melanoma patients was presented by Rutgers Cancer Institute of New Jersey oncologist Dr Ann Silk and showed a preliminary best overall response rate of 61 percent for 14 of 23 patients and a disease control rate of 78 percent for 18 of 23 patients, “with very promising durability of response in seven of 11 patients with the most advanced ... disease”.

Viralytics said that the response rates exceeded the published rates for either agent used alone in patients with late-stage melanoma.

Viralytics fell three cents or 3.6 percent to 81 cents with 1.6 million shares traded.

MACH7 TECHNOLOGIES

Mach7 says it has a strategic partnership with Zebra Medical Vision to include artificial intelligence for radiology.

Mach7 said that the Shefayim, north of Tel Aviv, Israel-based Zebra was an imaging analytics company with an artificial intelligence engine that could automatically detect medical findings in imaging scans.

The company said that its third generation Sage data services platform supported “an ecosystem of advanced applications”.

Mach7 said that the Zebra radiology assistant would be integrated into the Mach7 platform so that radiologists could access the analytic results from Zebra algorithms at the point-of-care.

Zebra co-founder and chief executive officer Elad Benjamin said the partnership would “enable Mach7 customers to make the leap into imaging [artificial intelligence] with an affordable option that is seamlessly integrated with Mach7’s imaging platform”.

Mr Benjamin said the product would “transform radiologist workflow and transform patient care”.

Mach7 chief executive officer Mike Jackman said the “application-neutral Sage healthcare data services platform, coupled with Zebra-Med’s [artificial intelligence] algorithm, will enable efficiencies to maximize radiologist productivity and contribute to overall improved patient care”.

Mach7 was up 0.25 cents or 1.4 percent to 17.75 cents.

ADMEDUS

Admedus says it has concluded its Cardiocel 3D evaluation program and intends to begin sales in North America from February 1, 2018.

Admedus said the evaluation of the Adapt-process bovine cardiac tissue Cardiocel 3D led to a potential line extension for the Vascucel product range, for the development of a three-dimensional scaffold product to be used in peripheral vascular repair.

The company said that the evaluation program gathered expert data before the product’s full commercial introduction, with a significant number of highly complex congenital heart defect arch repair cases completed at seven reference centres in North America and Australia.

Admedus said that physicians “expressed positive feedback and enthusiasm for the benefits of Cardiocel 3D, including its optimized arch shape, off-the-shelf availability, non-antigenic response and unique calcification resistance”.

Admedus chief executive officer Wayne Paterson said the company had “taken a strategic and measured approach with Cardiocel 3D to ensure the product is backed by the best possible science”.

“The evaluation program has provided us with extensive clinical data and we’re extremely excited by the results,” Mr Paterson said.

Admedus was up two cents or 9.8 percent to 22.5 cents.

RECCE

Recce has requested a trading halt pending an announcement “in relation to the receipt of information from the US Food and Drug Administration following ... recent data submission”.

Trading will resume on November 16, 2017 or on an earlier announcement.

Recce last traded at 17.5 cents.

IMMURON

Immuron says the US Patent and Trademarks Office has allowed a patent relating to its cow colostrum-based treatment for non-alcoholic steato-hepatitis (NASH).

Immuron said that the patent, entitled 'Anti-LPS Enriched Immunoglobulin for Use in treatment and/or Prophylaxis of a Pathological Disorder' and would provide coverage until April, 27, 2030, subject to a possible extension.

Immuron said the patent comprised 10 claims directed to a method of treating non-alcoholic steato-hepatitis, or fatty liver disease, with a colostrum-based composition.

Immuron interim chief executive officer Dr Jerry Kanellos said the patent was "a key milestone for Immuron as it further establishes the intellectual property position of our NASH program in the US and complements the patents already granted in Australia".

"This success paves the way for patent grants in other key jurisdictions, strengthening Immuron's presence in the global NASH treatment market," Dr Kanellos said.

Immuron was up 0.5 cents or 2.8 percent to 18.5 cents.

ESENSE-LAB, MMJ PHYTOTECH

Esense says it is raising \$1,619,719 in a placement at 25 cents per Chess depository instrument and MMJ will invest an additional \$500,000 at 20 cents per CDI.

Esense and MMJ said that the MMJ CDIs would come with one free option for every two CDIs purchased.

MMJ said the options would be exercisable at 30 cents each within three years of issue.

MMJ said the investment would be a "cornerstone investment" as Esense separately raised up to \$1,619,719 and MMJ would hold about 3.51 percent following the raising.

MMJ said that its 59 percent-owned subsidiary Harvest One Cannabis would provide Esense "technical expertise and its access to global networks".

MMJ said it was expanding its strategic direction to opportunities spanning the cannabis value chain and proposed to change its name to MMJ Capital (BD: Oct 10, 2017).

Esense said that the total raising was for \$2,119,500, with the placement "substantially oversubscribed".

Esense said that Otsana Capital was the lead manager for the placement and would receive a fee of 5,000,000 unlisted options exercisable at 40 cents within two years of issue, subject to shareholder approval.

Esense said the Harvest One collaboration would develop new intellectual property and products specific to the recreational and medical cannabis markets, as well as using each other's intellectual property and technologies to further enhance their existing technologies and products.

Esense was up three cents or 11.1 percent to 30 cents with 1.2 million shares traded.

MMJ fell four cents or nine percent to 40.5 cents with 6.2 million shares traded.

CRESO PHARMA

Creso says that with the Carros, France-based Virbac it will launch the hemp extract with cannabidiol Anibidiol for dogs in Switzerland.

Creso said that Anibidiol was "a natural complementary feed for companion animals containing a standardized amount of hemp extract with cannabidiol, the non-psychoactive substance of the hemp plant".

The company said the product supported "companion animals' immune system, its natural defences and contributes to balanced behaviour".

Creso was up two cents or 2.6 percent to 80 cents with 2.7 million shares traded.

RESPIRI (FORMERLY ISONEA, PREVIOUSLY KARMELSONIX)

Respiri will vote on a proposed board spill as well as to grant three directors 34,000,000 options exercisable at three cents each, linked to share price rises (BD: Oct 17, 2017).

The Respiri notice of motion said that the existing directors opposed the election of Samuel Yaakov Herszberg and Nicholas Ryan Johansen and for the re-election of executive chairman Leon L'Huillier, with director Dr Timothy Oldham retiring at the end of the meeting and not seeking re-election.

Respiri said that poker machine operator Bruce Mathieson's Investment Holding Pty Ltd held 16.6 percent of the company's shares and a group holding a further 13 percent would support Mr L'Huillier and oppose Mr Herszberg and Mr Johansen.

The company said it proposed to issue Mr L'Huillier 12,000,000 options exercisable at three cents each in two tranches pending the company exceeding a share price of 10 cents and 15 cents respectively, with director Mario Gattino to receive 20,000,000 options exercisable at three cents each in three tranches pending the company exceeding a share price of 10 cents, 15 cents and 20 cents respectively, and director John Ribot-de-Bresac to receive 2,000,000 options exercisable at three cents each, pending the share price exceeding 10 cents.

Respiri said it proposed to issue 1,000,000 shares to S3 Consulting Pty Ltd (Stocks Digital) in lieu of cash for consulting fees.

The company said shareholders would vote on the remuneration report and the 10 percent placement capacity.

The meeting will be held at the Boardroom, 62 Lygon Street, Carlton, on December 14, 2017 at 3pm (AEDT).

Respiri fell 0.1 cents or 2.6 percent to 3.8 cents.

AVITA MEDICAL

Regal Funds Management says it has increased its holding in Avita from 42,019,615 shares (5.43%) to 85,698,972 votes (8.16%).

Earlier this month, the Sydney-based Regal reduced its holding in Avita from 51,966,936 shares 6.71%) to 42,019,615 shares (5.43%) selling shares at prices between 5.2 and 5.9 cents a share (BD: Nov 2, 2017).

Today Regal said that between October 31 and November 9, 2017 it sold 8,213,597 shares for between 5.0 and 5.5 cents a share and on November 9 bought 51,892,954 shares for 4.5 cents a share.

Last week, Avita said its underwritten one-for-2.8 shares rights issue at 4.5 cents a share raised \$12,442,628, taking the total raised with the October \$4.5 million placement to \$16.9 million (BD: Oct 11, Nov 7, 2017).

Avita fell 0.2 cents or four percent to 4.8 cents with 2.7 million shares traded.

ANATARA LIFE SCIENCES

The Sydney-based Robert Anthony Lederer says he has increased his substantial shareholding in Anantara from 2,472,000 shares (5.00%) to 2,977,000 shares (6.03%).

Mr Lederer said the shares were held by RTL Group Investments Pty Ltd and his superannuation fund with 505,000 shares acquired on-market, between July 3 and November 13, 2017, but failed to sate the price paid, as required under the Corporations Act 2001.

Anantara fell 1.5 cents or one percent to \$1.485.

[AIRXPANDERS](#)

Greencape Capital says it has become a substantial shareholder in Airxpanders with 24,504,900 shares or 8.52 percent of the company.

The Sydney-based Greencape said it held 9,041,325 shares at July 9 and between July 26 and November 10, 2017 acquired a further 15,463,575 shares, with most shares bought on November 10 at 68 cents a share.

Airxpanders was up 1.5 cents or 2.1 percent to 73 cents.

[NOVOGEN](#)

Michael Abolakian and Hishenk Pty Ltd say they have increased their substantial holding in Novogen from 26,188,670 shares (5.4%) to 31,493,204 shares (6.6%).

The Artarmon, Sydney-based Mr Abolakian said the shares were held by Hishenk Pty Ltd and Hishenk Super Fund.

Mr Abolakian said he acquired the shares between June 13 and November 14, 2017 for \$266,805 or 5.03 cents a share.

Novogen fell 0.1 cents or 2.5 percent to 3.9 cents.

[BIOTECH CAPITAL](#)

Naos Asset Management says it has increased its substantial shareholding in Biotech Capital from 13,435,879 shares (10.57%) to 15,583,005 shares (12.26%).

The Martin Place, Sydney-based, Naos said it was acting as investment manager for "various trustee companies" and the registered holder was Australian Executor Trustees, but yet again failed to cite the cost of the 2,147,126 shares acquired on-market, as required under the Corporations Act 2001 (BD: Feb 24, Jun 14, Aug 1, 2017).

Biotech Capital was untraded at 20 cents.

[COCHLEAR](#)

Cochlear said that chief operating officer Diggory Howitt has been appointed as an executive director.

Cochlear said the appointment was in preparation for the retirement of chief executive officer Chris Smith on January 2, 2018, when Mr Howitt would become chief executive officer.

The company said that Mr Howitt had been appointed managing-director, effect from January 3, 2018.

Cochlear was up three cents or 0.02 percent to \$177.61 with 145,567 shares traded.