Biotech Daily

Tuesday February 5, 2013

Daily news on ASX-listed biotechnology companies

*** ASX, BIOTECH DOWN: ALLIED HEALTH UP 13%, COCHLEAR DOWN 9%**

*** RED CROSS, CSL, BIO-MELBOURNE: 'ARTIFICIAL BLOOD NOT IMMINENT'**

*** WEHI: MCL-1 SURVIVAL ESSENTIAL FOR TREATMENT**

*** COCHLEAR RECORD H1 REVENUE, UNIT SALES**

*** BIO-LINK TO MARKET PHYLOGICA'S ANTI-INFLAMMATORY PHYLOMERS**

*** PRIMA CEO MATTHEW LEHMAN: 'MANUFACTURE IS KEY'; PILOT TRIALS**

*** METAL GROUP, AVEXA, MCRAE DILUTED IN ALLIED HEALTH**

*** CALZADA, METABOLIC AOD9604 HELPS OSTEOARTHRITIS IN RABBITS**

*** NOVOGEN FILES SUPER-BENZOPYRANS PATENT APPLICATION**

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*** UNIQUEST PROMOTES DR DEAN MOSS TO ACTING CEO**

MARKET REPORT

The Australian stock market fell 0.50 percent on Tuesday February 5, 2013 with the S&P ASX 200 down 24.8 points to 4,882.7 points. Five of the Biotech Daily Top 40 stocks were up, 20 fell, 12 traded unchanged and three were untraded.

Allied Health was the best, up 0.3 cents or 13.0 percent to 2.6 cents with 9.3 million shares traded. Antisense climbed 7.7 percent; Avita was up 4.35 percent; Acrux rose 2.3 percent; Starpharma was up 1.3 percent; with CSL 0.7 percent.

Cochlear led the falls, down $7.50 or 9.3 percent to $72.96 with 855,086 shares traded. Both Genera and Prima lost eight percent; Alchemia and Benitec fell more than six percent; Impedimed was down 5.1 percent; GI Dynamics, Pharmaxis, Phylogica and Tissue Therapies were down more than three percent; Living Cell, Neuren, Prana and Sirtex shed more than two percent; Anteo, Circadian, Heartware, QRX, Reva and Universal Biosensors were down more than one percent; with Mesoblast down 0.3 percent.

BIO-MELBOURNE NETWORK, CSL, AUSTRALIAN RED CROSS BLOOD SERVICE

Australian Red Cross and CSL executives have told the Bio-Melbourne Network that despite demand exceeding supply, artificial blood products are a long way from market.

Australian Red Cross Blood Service executive director of research and development Prof David Irving and CSL Behring Australia's vice-president of research and development medical affairs Dr Darryl Maher told the Bio-Melbourne Bio-Breakfast that despite attempts to produce artificial blood, there was no substitute for plasma-derived immuno-globulins.

Prof Irving said that despite millennia of medical blood-letting, the process of blood transfusions was only about 60 years old and despite rapid improvements in fractionation and processing, research and development into artificial blood and plasma products had not produced strong results.

"Don't get too excited about the opportunity," Prof Irving said.

Prof Irving said that Australia received about 500 tonnes of donor plasma for fractionation each year, but that only met about 75 percent of the demand.

Prof Irving said that red blood cells could be stored for up to 42 days, but other blood products had much shorter shelf lives.

Prof Irving said the bovine haemoglobin product HBOC201 had been used for one car crash survivor, but Dr Maher said there were problems with human immunity to animal blood, although bovine albumin could be separated for patients needing blood volume.

Prof Irving said that IIT-Madras had created red blood cells from stem cells, but at a cost of $10,000 a unit compared to the $400 for donor-produced red cells.

Prof Irving said that about one-third of the Red Cross supplies went to cancer and blood disease patients, with just two percent for trauma.

He said the Red Cross had about 50 full-time equivalent research and development staff with blood processing centres across Australia and manufactured a range of about 12 individual products.

Prof Irving said that the Australian National Blood Authority spent about $1,035.5 million a year on the procurement and management of blood products.

Dr Maher said that Australia was one of the few countries where the trade in blood was prohibited, so the blood processed by CSL Behring for the Red Cross was owned by the Red Cross.

Dr Maher said that it was important to yield as many products as possible from every donation and the CSL plant in Broadmeadows Victoria separated plasma into immunoglobulin, albumin, clotting factors and specialty proteins.

"Immunoglobulin is the major driver of plasma collection," Dr Maher said.

He said intravenous immunoglobulin products required pools of up to 20,000 donors for use in primary and secondary immune deficiencies along with anti-inflammatory and immuno-modulatory roles and demand was growing at up to eight percent a year.

Dr Maher said the structure of the immunoglobulin G molecule meant that it had multiple modes of action and it was "unlikely to come up with a synthetic" although other treatments were being trialled.

Dr Maher said that albumin was in continuous demand and there were a range of issues with synthetic colloids, made from gelatins, dextrans and starches.

Dr Maher said that the plasma-derived factor VIII clotting factor for haemophilia and research was continuing on extending the shelf life of factor VII and factor IX by fusing them with long-lived albumin.

Dr Maher said that there were alternatives to albumin, recombinant coagulation factors have largely replaced plasma derived concentrates, but there was no substitute for immunoglobulin in the foreseeable future.

THE WALTER AND ELIZA HALL INSTITUTE FOR MEDICAL RESEARCH

The Walter and Eliza Hall Institute says its scientists have identified the Mcl-1 gene essential for the survival of antibody-producing plasma cells.

The Institute said the finding could lead to better treatments for diseases where the cells were uncontrolled, such as myeloma and chronic immune disorders.

The Institute said the Mcl-1 gene research, by Prof David Tarlinton, Dr Victor Peperzak and Dr Ingela Vikstrom, was entitled 'Mcl-1 is essential for the survival of plasma cells' and had been published in Nature Immunology with an abstract was available at . http://www.nature.com/ni/journal/vaop/ncurrent/abs/ni.2527.html.

WEHI said that antibody-producing plasma cells, were produced in the spleen and lymph nodes and migrated to live in the bone marrow and without McL-1 the plasma celled required for an immune response died rapidly.

Prof Tarlinton said that the antibody-producing plasma cells were produced after vaccination or infection and were responsible for the immune memory that could persist in humans for 70 or 80 years.

"In this study, we found that plasma cells critically rely on Mcl-1 for their continued survival and without it they die within two days," Prof Tarlinton said.

Dr Peperzak said the team was surprised to find that plasma cells used this as a fail-safe mechanism in controlling their survival.

"One of the interesting things we found is that because plasma cells rapidly destroy Mcl-1 proteins within the cell, yet depend on it for their survival, they need continuous external signals to tell them to produce more Mcl-1 protein," Dr Peperzak said.

"This keeps the plasma cells under tight control, with Mcl-1 acting like a timer that constantly counts down and, if not reset, instructs the cell to die," Dr Peperzak said.

Prof Tarlinton said that the plasma cells were vital to the immune response, but could be dangerous if not properly controlled.

"As with any immune cell, plasma cells are really quite dangerous in many respects and need to be tightly controlled," Prof Tarlinton said.

"When they are out of control they continue to make antibodies that can be very damaging if there are too many," Prof Tarlinton said.

"This happens in conditions such as myeloma - a cancer of plasma cells - and various forms of autoimmunity, such as systemic lupus erythamatosus or rheumatoid arthritis, where there are excessive levels of antibodies," Prof Tarlinton said.

The Institute said that myeloma was a blood cancer that affected more than 1,200 Australians each year and was more common in people over 60 years.

The Institute said that myeloma was caused by the uncontrolled production of abnormal plasma cells in the bone marrow and the build up of damaging antibodies in the blood.

WEHI said that rheumatoid arthritis and lupus were autoimmune diseases in which the antibodies produced by plasma cells attacked and destroyed the body's own tissues.

Prof Tarlinton said he hoped the discovery could be used to develop new treatments.

"Myeloma in particular has a very poor prognosis, and is generally considered incurable," Prof Tarlinton said. "Now that we know Mcl-1 is the one essential gene needed to keep plasma cells alive, we have begun working backwards to identify all the critical molecules and signals needed to switch on Mcl-1 and keep the cells alive."

"Our hope is that we will identify some point in the internal cell signalling pathway, or a critical external molecule, that could be blocked to stop Mcl-1 being produced by the cell," Prof Tarlinton said.

"This would be an important new platform for diseases that currently have no specific or effective treatment, such as myeloma, or offer new treatment options for people who don't respond well to existing treatments for diseases such as lupus or rheumatoid arthritis."

COCHLEAR

Cochlear has posted record first half-year revenue up one percent to $391.7 million for the six months to December 31, 2012, with a return to net profit after tax of $77.7 million.
Cochlear said that diluted earnings per share was 136.1 cents, with tangible assets per share down 14 percent to 300.3 cents at December 31, 2012.
The company said a final dividend of $1.25 a share would be paid on March 12, 2013, for a record ate of February 27, 2013.
Cochlear said the 40 percent franked dividend was an increase of four percent over the previous year.
Cochlear said research and development expenditure was up three percent to $59.9 million or 15.3 percent of total revenue.
Cochlear chief executive officer Dr Chris Roberts told a teleconference that unit sales for the six months to December 31, 2012 were up 27 percent over the previous corresponding period to a record 13,672 units and up 11 percent over the six months to June 30, 2012.
Dr Roberts said that the teleconference came at the 30th anniversary of the first implant and 12 months since the recall of the Cochlear Implant (CI) 500 series.
“We will bring the 500 series back,” Dr Roberts said, but said that would not happen until after manufacturing had moved from Lane Cove to the Macquarie University site and the product would require regulatory approval to be reintroduced.
Dr Roberts said that the previous 24RE model would continue to be implanted, using the 500 series external system.
Dr Roberts said that foreign exchange movements meant that the profit would have been about $20 million higher in constant currency.
Dr Roberts told the teleconference that Pakistan schoolgirl, Malala Yousafzai, who stood up to the Taliban for the right to education and was shot in the head, had received a Cochlear implant.
“That’s why we get up in the morning,” Dr Roberts said.
Cochlear said that sales in the Americas were up one percent in reported currency to $150.4 million, with Asia Pacific sales up 30 percent to $77.7 million and sales in Europe, Middle East and Africa down two percent to $140.1 million.
Cochlear said that net debt was $72.5 million with cash and cash equivalents at December 31, 2013 of $69,796,000.
Cochlear fell $7.50 or 9.3 percent to $72.96 with 855,086 shares traded.

PHYLOGICA

Phylogica says it will hire Bio-Link Australia to commercialize a family of anti-inflammatory Phylomer peptides for pharmaceutical use.
Phylogica said that the Sydney-based Bio-Link would assist in the out-licencing or disposal of the Phylomer peptides including lead candidates PYC35, PYC36, PYC38 and PYC98, which target the AP-1 pathway, a crucial mediator of inflammation in various diseases, to a pharmaceutical or biotechnology company.
The company said that the AP-1 pathway played a critical role in neuronal cell death caused by stroke and traumatic brain injury, and lung inflammation resulting from acute respiratory distress syndrome and septic shock.
The company said that the commercialization efforts with Bio-Link would be supported by a $20,000 Western Australian Government Innovation Vouchers Program grant.
Phylogica fell 0.1 cents or 3.85 percent to 2.5 cents with 3.2 million shares traded.

PRIMA BIOMED

Prima chief executive officer Matthew Lehman says the company will undertake pilot trials of the CVac technology in a range of cancers other than ovarian cancer.

Mr Lehman told Biotech Daily that he was undertaking an investor roadshow around Australia to meet some of the 14,000 shareholders, some of whom were very long-standing dating back to the spin-out from Melbourne's Austin Hospital and Burnet Institute in 2001.

Mr Lehman said that the single largest shareholder was director and former chief executive officer Martin Rogers with about two percent of the company.

Mr Lehman said that the phase II CAN003 trial of CVac for ovarian cancer was expected to provide immune monitoring data by October 2013 with full progression-free survival data by January 2014.

He said the last patient was enrolled at the end of 2011 and the trial was looking for an increase in T-cells specific to the mucin-1 protein along with interleukin 17 (IL-17), as well as an increase in progression-free survival.

Mr Lehman said that the phase III, 800-patient CANVAS trial was underway with 26 patients screened, 23 randomized and three patients dosed at the 14 active sites of the proposed up to 120 centres in the US, Europe and Australia.

He said he hoped the phase III trial would be completed in 2014 with data expected in 2015.

Mr Lehman said that understanding the mechanism of action of CVac meant that other cancer types had potential for treatment and the company proposed to begin a series of pilot trials by the middle of 2013.

He said that manufacturing capacity was a major concern and he was spending considerable time preparing for a potential scale-up of the manufacturing process.

Mr Lehman said that patients were treated with their own dendritic cells, so blood needed to be taken, fractionated and treated and then injected back into the patient.

He said that the profile of the target patient group was post-surgery and in remission post-chemotherapy and that there were about 35,000 potential patients a year in the US and five major European countries.

Mr Lehman said he was paying great attention to manufacturing considerations in the US, Europe and Asia and in discussion with seven separate regulatory authorities.

"Three things for a transaction are proof-of-concept, a clear regulatory pathway and viable manufacturing," Mr Lehman said.

Prima fell one cent or eight percent to 11.5 cents with 2.9 million shares traded.

ALLIED HEALTHCARE GROUP

The Metal Group, Avexa through subsidiary AVI Capital and McRae Technology have had their shareholdings in Allied Health diluted in a 2.0 cents a share placement and plan.

In a series of change of substantial shareholder notices filed by Allied Health, the Metal Group – associated with Western Australian miner Andrew Forrest – said it had increased its substantial holding but been diluted in Allied from 140,996,274 shares (17.84%) to 155,773,299 shares (15.05%).

Avexa through AVI retained 81,689,680 shares and was diluted from 10.19 percent to 7.89 percent.

The Western Australia-based McRae Technology said it retained 77,055,941`shares but was diluted from 8.74 percent to 7.51 percent.

Allied Health was up 0.3 cents or 13.0 percent to 2.6 cents with 9.3 million shares traded.

CALZADA

Calzada subsidiary, Metabolic Pharmaceuticals says injected AOD9604 has shown a positive effect on the repair of cartilage and joint tissue in rabbits.

AOD9604 was originally developed as an anti-obesity drug, but a phase II trial by the then Metabolic showed it only had efficacy in patients who did not comply with the US Food and Drug Administration required exercise and diet regime (BD: Feb 21, 2007).

Today, Calzada said AOD9604 was studied in a rabbit model of collagenase-induced osteoarthritis at South Korea's Daegu Catholic University Medical Center under the direction of Dr Dong Rak Kwon

The company said the study showed that AOD9604 had a positive effect on the repair of cartilage and joint tissue following intra-articular injection into collagenase-induced in a rabbit model of collagenase-induced osteoarthritis in the rabbit model.

Calzada said hyaluronic acid (HA) was a drug commonly used in the treatment of osteoarthritis in humans and animals and AOD9604 had an additive positive effect on the repair of cartilage and joint tissue, with no evidence of any adverse reactions in the joints of any of the treated animals.

Calzada said the company previously released in-vitro results cartilage and muscle repair (BD: Mar 13, 2012) and the encouraging in-vivo data and favorable safety profile of AOD9604, from formal pre-clinical toxicology studies and six human clinical trials, provided "strong rationale for use of the peptide to treat [osteoarthritis]".

Calzada said that with the existing AOD9604 clinical safety data package, it was possible that starting at phase II trials could save it or a partner substantial time and money.

Calzada said that in December 2011 Metabolic lodged patent applications covering the new cartilage and muscle applications of AOD9604 for human and veterinary uses.

The company said that Metabolic would provide the animal data to potential veterinary and pharmaceutical partners and continue to seek cost-effective approaches to extracting value for shareholders from the more than $50 million invested in AOD9604 to date.

Calzada fell 0.1 cents or 2.1 percent to 4.7 cents.

NOVOGEN

Novogen says it has filed a provisional patent application covering the manufacture and use of a new class of molecules referred to as 'super-benzopyrans'.

Novogen said the invention was based on technology acquired when it purchased Triaxial Pharmaceuticals last year (BD: Dec 7, 2012).

The company said that Triaxial had developed a manufacturing process that involved chemically bending molecules to allow the insertion of atoms not previously possible, to design and build molecules to suit particular therapeutic applications and the initial result was the creation of a new family of compounds known as super-benzopyrans, previously impossible to manufacture and displaying a novel range of anti-cancer functions.

The company said that it had conducted manufacturing studies on the first drug candidate, CS-6, and was able to produce the quantities required for its developmental program.

Novogen said the patent covered the method of manufacture, method of use, and composition of matter.

Novogen chief scientist Dr Andrew Heaton said that "to create a potent anti-cancer drug such as CS-6 and to then add a further layer of design to improve its ability to attack cancer cells and then to add a further design layer to increase the likelihood of it being able to cross the blood-brain barrier is a practical example of what is achievable with this technology".

Novogen was unchanged at eight cents.

AMPLIPHI BIOSCIENCES CORPORATION

Ampliphi says it the US Patent and Trademark Office has allowed a patent entitled 'Bacteriophage-Containing Therapeutic Agents'.

Last year, the Richmond, Virgina-based Ampliphi said it would acquire Sydney's Special Phage Services to develop phage-based therapies for antibiotic-resistant infection (BD: Sep 10, 2012).

Ampliphi said at that time that it was developing bacteriophages, or viruses that lived off bacteria, and no other cell, for use against drug-resistant bacteria.

The company said it would be led by chief executive officer Phil Young and Phillip Bioscience Managers director Jeremy Curnock-Cook as chairman, with operations in the US, UK and Australia.

Today, Ampliphi said that the patent covered the use of bacteriophage-based therapy for the treatment of infections caused by the bacteria Pseudomonas aeruginosa associated with biofilms in effective combination with antibiotics.

Mr Young said that non-clinical results indicated that treatment with the bacteriophage preparations before antibiotics were administered could restore the effectiveness of antibiotics that were previously ineffective.

"Such a treatment regime could be enormously important in the battle to address the rise of antibiotic resistance and, in particular to treat infections present in biofilms," Mr Young said.

Ampliphi said the corresponding Australian patent was issued on June 10, 2010, with applications under examination in Europe, Canada and Japan.

SUNSHINE HEART

Sunshine Heart says it has conditional approval from the ASX to delist effective from the close of trading on May 6, 2013 (BD: Jan 30, 2013).

Sunshine Heart was unchanged at three cents.

UNIQUEST

The University of Queensland's commercialization arm Uniquest has promoted technology commercialization general manager Dr Dean Moss to acting chief executive officer.

Uniquest chair Dr Carrie Hillyard said that Dr Moss would replace managing director David Henderson when he leaves later this month.

Uniquest said that Dr Moss joined the company in 2005 as the general manager responsible for leadership, business development and life sciences interests.

Dr Hillyard said Dr Moss had experience in science, academia and business.

Uniquest said it had begun the recruitment process for a replacement managing director.