



Biotech Daily

Friday September 11, 2015

Daily news on ASX-listed biotechnology companies

- * **ASX DOWN, BIOTECH UP: ONCOSIL UP 9.5%; IDT DOWN 8.5%**
- * **FEDERAL GOVERNMENT BACKS CSIRO, ANATOMICS 3-D STERNUM, RIBS**
- * **SUNSHINE HEART C-PULSE PULMONARY HYPERTENSION SHEEP STUDY**
- * **CBA, COLONIAL, CITICORP BELOW 5% IN PRO MEDICUS**
- * **SABBY TAKES 7.5% OF BENITEC**

MARKET REPORT

The Australian stock market fell 0.47 percent on Friday September 11, 2015 with the ASX200 down 23.9 points to 5,071.1 points.

Sixteen of the Biotech Daily Top 40 stocks were up, 14 fell, eight traded unchanged and two were untraded.

Oncosil was the best, up one cent or 9.5 percent to 11.5 cents with 3.3 million shares traded.

Atcor and Compumedics climbed more than eight percent; Nanosonics was up 5.5 percent; Prana improved four percent; Actinogen, Bionomics and Prima were up more than three percent; Living Cell and Optiscan rose more than two percent; Anteo, Avita, Ellex, Neuren and Tissue Therapies were up more than one percent; with Resmed and Sirtex up by less than one percent.

IDT led the falls, retreating 2.5 cents or 8.5 percent to 27 cents with 22,050 shares traded.

Impedimed and Polynovo fell more than four percent; Antisense, Benitec and Medical Developments lost three percent or more; Orthocell, Pharmaxis and Reva shed more than two percent; Admedus, Clinuvel, CSL and Starpharma were down by more than one percent; with Acrux, Cochlear and Viralytics down by less than one percent.

[ANATOMICS, CSIRO, FEDERAL GOVERNMENT](#)

The Federal Government says a sternum and rib printed by the Commonwealth Scientific and Industrial Research Organisation and Anatomics has been used surgically.

In a media release, the Minister for Industry and Science Ian Macfarlane said the CSIRO collaboration with the Melbourne-based private company Anatomics allowed a Spanish cancer patient to receive the titanium sternum and rib implant.

Mr Macfarlane's media release said that the implant was designed and developed in Australia, in a collaboration between Anatomics and CSIRO's three-dimensional (3-D) printing facility in Clayton.

"This breakthrough is an impressive example of what can be achieved when industry and science come together," Mr Macfarlane said.

"This collaboration crossed disciplines and international boundaries, with a clear benefit for both this individual patient and for surgical practice," Mr Macfarlane said.

The media release said that after being diagnosed with a chest wall sarcoma, the 54-year-old man's surgical team made the decision to remove his sternum and a portion of his rib cage and replace it with an implant.

Mr Macfarlane's media release said that the Salamanca University Hospital surgical team Dr José Aranda, Dr Marcelo Jimene and Dr Gonzalo Varela knew the surgery would be difficult due to the complicated geometries involved in the chest cavity.

"We thought, maybe we could create a new type of implant that we could fully customise to replicate the intricate structures of the sternum and ribs," Dr Aranda said.

"We wanted to provide a safer option for our patient, and improve their recovery post-surgery," Dr Aranda said.

The media release said that Anatomics chief executive officer Andrew Batty believed the solution was in metallic 3-D printing.

"We wanted to 3-D print the implant from titanium because of its complex geometry and design," Mr Batty said.

"While titanium implants have previously been used in chest surgery, designs have not considered the issues surrounding long term fixation," Mr Batty said.

"Flat and plate implants rely on screws for rigid fixation that may come loose over time," Mr Batty said. "This can increase the risk of complications and the possibility of re-operation."

The media release said that the Anatomics team was able to create a three-dimensional reconstruction of the chest wall and tumor, allowing the surgeons to plan and accurately define resection margins.

"From this, we were able to design an implant with a rigid sternal core and semi-flexible titanium rods to act as prosthetic ribs attached to the sternum," Mr Batty said.

CSIRO's Alex Kingsbury said that the implant was built using "our \$1.3 million Arcam printer".

"The printer works by directing an electron beam at a bed of titanium powder in order to melt it," Ms Kingsbury said. "This process is then repeated, building the product up layer-by-layer until you have a complete implant."

"3-D printing has significant advantages over traditional manufacturing methods, particularly for biomedical applications," Ms Kingsbury said.

"As well as being customisable, it also allows for rapid prototyping, which can make a big difference if a patient is waiting for surgery," Ms Kingsbury said.

"The operation was very successful," Dr Aranda said. "Thanks to 3D printing technology and a unique resection template, we were able to create a body part that was fully customised and fitted like a glove."

Anatomics is a private company.

SUNSHINE HEART

Sunshine Heart says a sheep study with the University of Louisville will study the impact of the C-Pulse technology on pulmonary hypertension and heart failure.

Sunshine Heart said the collaboration with Dr Mark Slaughter and the University of Louisville would study the impact of the C-Pulse aorta cuff counter-pulse technology on the pulmonary circulation and the right heart for hypertension and heart failure, but did not cite the species.

The company said that pulmonary arterial hypertension was “a debilitating condition characterized by progressive increases in pulmonary vascular resistance and loss of elasticity of the pulmonary artery and large vessels”.

Sunshine Heart said that patients with pulmonary arterial hypertension suffered from poor quality of life, shortness of breath and greatly reduced functional capacity leading to right ventricular dysfunction and ultimately, right heart failure.

The company said that pulmonary arterial hypertension affected about 200,000 patients worldwide and placed a significant burden on the healthcare system, with limited treatment options available and five-year survival rates as low as 34 percent.

Sunshine Heart said that pulmonary arterial hypertension and right heart failure were also commonly associated with left heart failure, with about 50 percent of patients with systolic heart failure or preserved ejection fraction heart failure having pulmonary arterial hypertension, also having similar five-year survival rates.

The company said that pulmonary arterial hypertension and right heart failure were a significant risk in the left ventricular assist device patient population.

Sunshine Heart said that the studies with Dr Slaughter and the University of Louisville were hoped to provide scientific rationale for a new application of the C-Pulse therapy by leveraging the existing technology to apply counter-pulsation to the pulmonary artery in acute and chronic animal preparations.

The company said that biochemical, neuro-hormonal and pressure-volume data would be used to assess the effects of C-Pulse on pulmonary circulation and heart properties.

Sunshine Heart said that a fully implantable system might provide therapeutic options in heart failure or preserved ejection fraction heart failure population with pulmonary arterial hypertension where there were no approved treatments.

Last night on the Nasdaq, Sunshine Heart fell eight US cents or 3.0 percent to \$US2.59 (\$A3.66, equivalent to 1.83 cents prior to departing the ASX) with 48,205 shares traded.

PRO MEDICUS

The Commonwealth Bank of Australia and related bodies say they have ceased their a substantial shareholding in Pro Medicus.

The CBA ceasing substantial shareholder notice said the Bank and related parties bought and sold shares between June 3 and September 7, 2015 reducing below the 5.0 percent substantial level.

The Bank said in its previous notice dated September 6, 2013 that it held 5,816,433 shares or 5.8 percent of the company.

The Pro Medicus full year accounts published on August 21, 2015 said that Citicorp Nominees held 5,935,942 shares or 5.92 percent, the same numbers for a CBA holding. In today's announcement, CBA said that all the shares bought and sold were through Colonial First State Asset Management, with the largest purchase on May 27, 2015 of 16,494 shares for \$37,415 or \$2.27 a share and the largest sale on June 9, 2015 of 461,284 shares for \$996,466 or \$2.16 a share.

Pro Medicus fell five cents or 2.3 percent to \$2.15.

[BENITEC BIOPHARMA](#)

Sabby Management LLC says it became a substantial shareholder in Benitec with 11,000,000 shares or 7.54 percent of the company on August 21, 2015.

The New Jersey and Cayman Islands-based Sabby failed to disclose the value of the payment for the shares.

In August, Benitec said it had raised \$US13.8 million (\$A18.8 million) of the hoped for \$US70 million (\$95.4 million), at the equivalent of 62.8 cents a share, a discount of 22.5 percent to its last ASX closing price (BD: Jun 23, Aug 19, 2015).

The company said in August that it would issue 1,500,000 American depositary shares at \$US9.21 a share, equivalent to 30,000,000 Australian shares at 62.8 cents share.

Benitec fell two cents or 3.9 percent to 49 cents.