



Biotech Daily

Thursday February 4, 2016

Daily news on ASX-listed biotechnology companies

- * **ASX UP, BIOTECH DOWN: CLINUVEL UP 5%, TISSUE THERAPIES DOWN 11%**
- * **SOUTH AUSTRALIA UNI AND SEMENTIS, BHARAT WORK ON ZIKA VACCINE**
- * **ELIMINATE DENGUE ZIKA MOSQUITO BIOLOGICAL RESPONSE**
- * **IMMURON RECEIVES \$1.5m FEDERAL R&D TAX REFUND**
- * **CVC TAKES 5.2% OF BIONOMICS**
- * **TAIWAN'S MEDIGEN TAKES 52% OF TBG (PROGEN)**
- * **EDWARD CHANG, ETERNAL MATERIALS TAKE 18.5% OF TBG**
- * **TBG APPOINTS EDWARD CHANG DIRECTOR**
- * **CELLMID APPOINTS ELIZABETH MASAMUNE DIRECTOR OF ADVANGEN**
- * **MEDIVAC: RODGER JOHNSTON M-D, MICHAEL HIGGINSON CO SEC**

MARKET REPORT

The Australian stock market rebounded 2.12 percent on Thursday February 4, 2016 with the ASX200 up 103.6 points to 4,980.4 points. Eleven of the Biotech Daily Top 40 stocks were up, 22 fell, five traded unchanged and two were untraded.

Clinuvel was the best, up 14 cents or 4.9 percent to \$3.00 with 65,371 shares traded. Bionomics, Impedimed and Optiscan climbed more than four percent; Living Cell and Osprey improved more than three percent; Atcor rose 2.9 percent; Mesoblast and Nanosonics were up more than one percent; with Admedus, CSL and Medical Developments up by less than one percent.

Tissue Therapies led the falls, down 0.5 cents or 11.1 percent to four cents with 220,777 shares traded.

Actinogen lost 5.6 percent; Anteo, Avita, Cellmid, Genetic Technologies, Neuren and Oncosil fell four percent or more; Ellex, Orthocell and Starpharma were down more than three percent; Acrux, IDT, Polynovo and Prima shed two percent or more; Biotron, Pharmaxis, Resmed, Sirtex, Universal Biosensors and Viralytics lost one percent or more; with Cochlear, Pro Medicus and Reva down by less than one percent.

UNIVERSITY OF SOUTH AUSTRALIA, SEMENTIS, BHARAT BIOTECH

The University of South Australia says it and Sementis are developing a vaccine against the mosquito-borne Zika virus; India's Bharat Biotech says it is working on two vaccines. The World Health Organisation has declared the Zika outbreak a public health emergency. In a media release, the University said that its Experimental Therapeutics Laboratory had partnered with Sementis to develop a protective vaccine for the mosquito-borne Chikungunya virus which was in the clinical manufacturing process.

Last year, the Melbourne-based Sementis chief executive officer Dr Jane Ryan told Biotech daily she hoped to raise \$2 million for pre-clinical work on its attenuated virus vaccine for chikungunya, peanut allergy and cat allergy (BD: Nov 25, 2015).

The University said that laboratory head Prof John Hayball hoped his team could adapt the Sementis Chikungunya vaccine for Zika virus, which had been detected in 23 countries in the Americas, was suspected of causing birth defects and could infect three to four million people in the Americas over the next year.

Prof Hayball said that the Zika virus, for which there was no treatment, had caught the world flat footed.

"It's really a race against the clock to find a vaccine for Zika virus and our lab is starting pre-clinical laboratory based experiments immediately," Prof Hayball said.

The University said that with Sementis it developed a protective vaccine for Chikungunya virus late in 2015, and was finalizing a contract for manufacturing clinical grade material for toxicity studies and early clinical trials.

Prof Hayball said that the University and Sementis had shown that the Chikungunya vaccine was "100 percent effective" in pre-clinical studies.

He said that the Chikungunya vaccine was developed from a vaccine platform technology invented by Sementis and developed with the University.

"Using this vaccine platform, we use genetic engineering techniques to insert genes for antigens from different diseases, so Chikungunya genes to make the Chikungunya vaccine and Zika genes to make the Zika vaccine," Prof Hayball said.

The University said that Zika virus was spread by the same group of mosquitoes that spread the Dengue and Chikungunya virus and were typically urban breeders called *Aedes aegypti*.

Prof Hayball told Biotech Daily that he could not estimate how long it would take to produce a Zika vaccine, but said the Lyon, France-based Sanofi Pasteur took 20 years and \$1.5 billion to develop and gain registration last year for its vaccine for Dengue fever.

BHARAT BIOTECH

The Genome Valley, Hyderabad, India-based Bharat Biotech said it had two vaccine candidates for the Zika virus, a recombinant vaccine and an inactivated vaccine that was in pre-clinical testing in animals.

Bharat said its vaccine for Chikungunya was expected to begin phase I trials shortly.

The company said it had "an early mover advantage in developing the Zikavac and we are probably the first in the world to file for global patent for Zika vaccine candidates".

Bharat said that it was conducting scale-up and characterization of the vaccine and its interest in Zika began one year ago due to the clinical features at an early stage of infection were indistinguishable from that of Dengue and Chikungunya.

The company said that a recombinant vaccine using the surface antigens of the virus was being developed concurrently.

A spokesperson for Bharat said that if the developmental and regulatory processes could be fast-tracked, the company expected to have the vaccine ready "in two to three years".

ELIMINATE DENGUE

Eliminate Dengue says injecting its Wolbachia bacteria into the Aedes aegypti mosquito reduces the mosquito's ability to transmit viruses, with applicability to Zika virus.

The Melbourne-based Eliminate Dengue is a Bill & Melinda Gates Foundation 'Global Health Initiative' and developed the concept to eradicate Dengue fever.

A spokesman for the group told Biotech Daily the Wolbachia bacteria was found in 60 percent of insects but not the Aedes aegypti mosquito and it would act to boost the mosquito's immune system while competing for nutrients with the Dengue virus.

The spokesman said the technique would have applicability to Zika, Chikungunya and Yellow Fever.

IMMURON

Imugene says it has received \$1,469,763 from the Australian Tax Office under the Federal Government Research and Development Tax Incentive program.

Immuron said that the tax incentive was for research and development programs for the year to June 30, 2015.

Immuron was up one cent or 2.3 percent to 45 cents.

BIONOMICS

CVC has become a substantial shareholder in Bionomics with 24,901,120 shares or 5.18 percent of the company.

The Sydney-based CVC said it bought 10,000,000 shares on-market on February 2, 2016 for \$3,313,530 or 33.1 cents a share.

Bionomics was up 1.5 cents or 4.7 percent to 33.5 cents

TBG DIAGNOSTICS (FORMERLY PROGEN PHARMACEUTICALS)

Taiwan's Medigen Biotechnology Corp says it has increased its shareholding in TBG from 10,892,964 shares (19.70%) to 112,615,938 shares (51.76%).

Medigen said that it acquired 101,722,974 shares at 21 cents a share issues as consideration for the acquisition of TBG by Progen.

Previous Medigen notices were signed by Medigen chairman Dr Stanley Chang, a former director of Progen and now a director of TBG (BD: May 29, 2013).

TBG was up 3.5 cents or 13.2 percent to 30 cents.

TBG DIAGNOSTICS

The Taiwan-based Eternal Materials Co says it has become a substantial shareholder in TBG 40,200,000 shares (18.48%).

The substantial shareholder notice, signed by finance director Edward Chang said that the shares were acquired on January 27, 2016 for \$8,442,000 or 21 cents a share.

The then Progen raised \$12.5 million at 21 cents a share as part of the acquisition of TBG from Taiwan's Medigen (BD: Feb 3, 2016).

TBG DIAGNOSTICS

TBG says that Edward Chang has been appointed a non-executive director and is the appointed nominee director of Taiwan chemical material provider Eternal Materials Co. TBG said that Mr Chang was the finance director of Eternal Materials, which had three business groups focusing on the manufacture and sale of synthetic resins, electronic chemical materials and specialty chemicals.

The company said that previously Mr Chang worked at photovoltaic cell provider Motech Industries as the manager of the treasury and risk management department.

TBG said that Mr Chang held a Master's of Business Administration from Canada's York University.

CELLMID

Cellmid says it has appointed Elizabeth Masamune as a non-executive director of its wholly-owned Japan subsidiary Advangen Inc.

Cellmid said that Ms Masamune was based in Tokyo and would lead the strategy for its Évolis FGF5-inhibitor hair growth product to be launched in Japan and Asia.

The company said that Ms Masamune was previously a diplomat working in North and South East Asia for 25 years, including 22 years with the Australian Trade Commission, or Austrade, where she was senior trade commissioner, general manager and country head.

Cellmid said that Ms Masamune was fluent in Japanese and spoke Korean, Indonesian, Vietnamese, French and Spanish and had experience in engaging with foreign governments and corporations and a detailed understanding of trade and investment organisations throughout Asia, had experience in importing Australian products into Asia and raising funds to commercialize innovations.

The company said that Ms Masamune held a Bachelor of Arts for Monash University and a Master of Literary Studies from the University of Queensland.

Cellmid fell 0.1 cents or 4.55 percent to 2.1 cents with 1.1 million shares traded.

MEDIVAC

Medivac says that non-executive director Rodger Johnston has appointed managing director and Michael Higginson has been appointed company secretary.

Medivac was untraded at 0.3 cents.