Bionomics Ltd (ASX:BNO) CEO Dr Deborah Rathjen was named BioSpectrum Asia-Pacific Person of the Year 2013 at the fifth annual BioSpectrum Asia-Pacific Awards ceremony in Singapore on 15 March 2013. Candidates were assessed against criteria including performance of the company, key projects over the past year, global initiatives and stature as a leader and visionary.

Circadian Technologies Ltd (ASX:CIR) launched a range of unique vascular endothelial growth factor VEGF ‘Vegenics’ branded products as research reagents for direct sale to the worldwide life science research community.

Living Cell Technologies Ltd (ASX:LCT) was awarded the 2013 Janssen Industry Excellence Award for Company of the Year on 19 March 2013 at the NZBIO Annual Conference. The award recognises the company’s innovative research, pipeline development and portfolio as well as business development success in partnering with the pharmaceutical and venture capital industries. The judges commented that Living Cell has taken a complex world-first treatment technology in an important area over some very tough regulatory hurdles to show considerable promise in human trials.

Novogen Ltd (ASX:NRT) signed a Memorandum of Understanding with the Ingham Institute to develop a new class of super-benzopyran molecules intended to offer comprehensive cancer therapy, to kill both cancer cells and cancer stem cells. The targets are cancers with poor prognoses, such as glioblastoma multiforme, the main form of primary brain cancer, pancreatic cancer, late-stage ovarian cancer, melanoma and colo-rectal cancer. The Ingham Institute is a partnership between the South Western Sydney Local Health District, University of Western Sydney, University of New South Wales and Liverpool Hospital.

Phylogica Ltd (ASX:PYC) entered into an agreement with Bio-Link Australia Pty Ltd, a specialist life sciences business development company, to commercialise a family of anti-inflammatory Phylomer® peptides for pharmaceutical use. These peptides have demonstrated efficacy in targeting the AP-1 pathway, a crucial mediator of inflammation in various diseases, in multiple preclinical models for stroke, traumatic brain injury and acute respiratory distress syndrome.

Medical Biotechnology

Medical biotechnology refers to the use of biological applications in the identification and treatment of human diseases. Examples include the design of organisms to produce drugs and therapeutic molecules and the genetic engineering of therapies for diseases such as cancer and AIDS.

Emerging areas of application include:

- biopharmaceuticals – the development of protein-based and nucleic-acid-based drugs to better target disease processes
- pharmacogenomics (personalised medicine) – the development of drugs that are adapted to a person’s genetic makeup
- gene therapy – treatment of genetic and acquired diseases, such as cancer
- genetic screening – for the detection of genetic conditions.

Australia’s largest biotechnology company is CSL Ltd (ASX:CSL), which develops and manufactures blood plasma products, cell culture media, vaccines and anti-venoms. Established in 1916 as the government-owned Commonwealth Serum Laboratories, CSL moved to its headquarters in Parkville, Victoria, in 1918. In 1991, CSL was incorporated as a public company, with all shares held by the Commonwealth Government. Following a public float, CSL listed on the ASX in May 1994, with a market capitalisation of $300 million. During Q1 2013, CSL increased its market capitalisation by 9.6 per cent from $26.9 billion to $29.5 billion. This is 86.6 per cent of the total market capitalisation of companies tracked by BBI. With major facilities in Australia, Germany, Switzerland and the US, CSL has over 10,000 employees working in 27 countries.

Adult stem cell company Mesoblast Ltd (ASX:MSB) debuted on the ASX in December 2004, with an IPO of $21 million. It has since become Australia’s second largest listed biotechnology company, with a market capitalisation of $1.9 billion at the end of Q1 2013. This is 5.7 per cent of the total market capitalisation of companies tracked by BBI. Mesoblast’s business is based on a proprietary mesenchymal precursor cell (MCP) adult stem cell technology platform.
During Q1 2013, the ASX Health index grew by 8.0 per cent from 11632.6 to 12565.7.

Care Sector index. This index is a broader category that includes healthcare, pharmaceutical, biotechnology and medical device companies.

The following graph compares the market capitalisation of all BBI companies, including and not including CSL, to the S&P/ASX 200 Health Care Sector index. This index is a broader category that includes healthcare, pharmaceutical, biotechnology and medical device companies. During Q1 2013, the ASX Health index grew by 8.0 per cent from 11632.6 to 12565.7.
Mergers & Acquisitions

Acuvax Ltd (ASX:ACU) executed a binding share purchase agreement to acquire 100 per cent of the issued capital of Sydney cancer company Biolife Science Ltd.

NeuroDiscovery Ltd (ASX:NDL) entered into a sale and purchase agreement to acquire 100 per cent of Enigma Therapeutics Ltd, a UK cancer company. Enigma’s lead product Oncosil is a targeted brachytherapy treatment using radioactive isotopes, with a Phase III study planned for 2013.

Novogen Ltd (ASX:NRT) completed a demerger with US oncology company MEI Pharma, formerly Marshall Edwards Inc.

Secondary Capital Raising

Benitec Biopharma Ltd (ASX:BLT) raised $1 million through two private placements, to support its lead hepatitis C program through final US regulatory approvals and enable the commencement of a Phase I/IIa clinical trial during 2013.

Bioxyne Ltd (ASX:BPO) raised $0.5 million through a share placement.

Cellmid Ltd (ASX:CDY) raised $2 million through a share placement, to support its Evolis hair products in Australia.

HealthLinx Ltd (ASX:HTX) secured $1 million in a loan and convertible bond issue with Gleneagle Securities Nominee Pty Ltd.

Mesoblast Ltd (ASX:MBS) raised $170 million through a private placement, giving it cash reserves of approximately $332 million, to fund Phase III spinal therapy trials. This is one of the largest secondary capital raisings in the biotechnology sector since BBI began publication in 2004, eclipsing the $89 million raised by Pharmaxis in Q4 2005 and Mesoblast’s previous largest capital raising of $37 million in Q2 2010.

NeuroDiscovery Ltd (ASX:NDL) raised $1.5 million through a share placement, to support its acquisition of Enigma Therapeutics Ltd.

Pharmaxis Ltd (ASX:PX) signed a financing agreement with NovaQuest Pharma Opportunities Fund III, LP, for up to $40 million to support the commercialisation of Bronchitol® for the treatment of cystic fibrosis in the European Union (EU) and the US.

Prana Biotechnology Ltd (ASX:PBT) raised $7.0 million through a share placement to support regulatory approvals for its key clinical asset PBT2.

Tissue Therapies Ltd (ASX:TIS) raised $8.7 million through a share placement to support a sales launch program in the EU.

Clinical Trials

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<th>Company</th>
<th>Comments</th>
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<tr>
<td>Antinogen Ltd (ASX:ACW)</td>
<td>Commenced trials to test the performance of growth hormones produced from actinomycetes in wheat and peas.</td>
</tr>
<tr>
<td>Antisense Therapeutics Ltd (ASX:ANP)</td>
<td>Commenced a Phase II trial of ATL1103 for the growth disorder acromegaly in 24 patients in the UK.</td>
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<tr>
<td>Bone Medical Ltd (ASX:BNE)</td>
<td>Completed a trial of CaPTHymoneTM oral parathyroid hormone to treat osteoporosis.</td>
</tr>
<tr>
<td>Calzada Ltd (ASX:CZD)</td>
<td>Subsidiary PolyNovo Biomaterials Pty Ltd completed a vacuum assisted closure trial of NovoSorb™ dressing in hard to heal pressure sores. PolyNovo also completed a topical negative pressure trial in Adelaide.</td>
</tr>
<tr>
<td>Invion Ltd (ASX:IVX)</td>
<td>Commenced a Phase II trial of INV102 or nadolol in mild asthma.</td>
</tr>
<tr>
<td>Pharmaxis Ltd (ASX:PX)</td>
<td>Completed a Phase III international trial assessing Bronchitol® in treating bronchiectasis. The trial recruited 485 participants across 83 hospitals.</td>
</tr>
<tr>
<td>Prima BioMed Ltd (ASX:PRR)</td>
<td>Commenced a Phase II/III trial of CVac™ in 1000 ovarian cancer patients across 100 hospitals in Europe, the US and Australia.</td>
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Market Approvals

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<tr>
<th>Company</th>
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<tr>
<td>Antisense Therapeutics Ltd (ASX:ANP)</td>
<td>US FDA approved the new drug application by technology partner Isis Pharmaceuticals Inc. for its injectable systemic drug KYNAMRO, the first to reach the market, to treat homozygous familial hypercholesterolemia.</td>
</tr>
<tr>
<td>pSivida Corp. (ASX:PVA)</td>
<td>Spanish Agency of Drugs and Medical Devices approved the sustained release micro-insert ILLUVIEN® to treat vision impairment associated with chronic diabetic macular oedema.</td>
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</table>
BioDiem Ltd (ASX:BDM): Chinese divisional patent granted for the use of synthetic compound BDM-I as a preventative and therapeutic compound against a range of infectious diseases, including tuberculosis, pneumonia, meningitis and malaria. The parent patent was granted in China in 2010.

BPH Energy Ltd (ASX:BPH): Australian patent granted until 2027 to investee company Cortical Dynamics Ltd for its Brain Anaesthesia Response monitoring unit. Japanese patent granted until 2026 to investee company Diagnostic Array Systems Pty Ltd for its BacTrac™ System, a diagnostic tool for the identification of multiple respiratory pathogens, such as pneumonia, tuberculosis and Legionella disease, from a single sputum sample.

Imugene Ltd (ASX:IMU): Japanese patent granted for novel oral drug delivery technology Linguet™, used to treat osteoporosis and multiple myeloma.


Phylogica Ltd (ASX:PYC): Australian patent granted for Phylomer libraries as composition-of-matter, with no restriction on the source of genomes represented in any Phylomer library, provided the sequenced genomes are compact.

BioDiem Ltd and US Army Medical Research Institute of Infectious Diseases (US): renewed its Material Transfer Agreement to assess the potential of the novel antimicrobial BDM-I as a biological weapons counter-measure.

Cellmid Ltd and Fujikura Kasei Co Ltd (Japan): option to license agreement for supply of Cellmid’s anti-mickine diagnostic antibodies for validation on Fujikura’s platform for latex particles used in medical diagnostics.

Circadian Technologies Ltd and Santa Cruz Biotechnology, Inc. (US): non-exclusive world-wide licensing agreement between subsidiary Vegenics Pty Ltd and Santa Cruz Biotechnology to Circadian’s proprietary VEGF molecules.


Progen Pharmaceuticals Ltd and Medigen Biotech Corp. (Taiwan): license agreement to develop and commercialise Progen’s drug candidate PG545 for the prevention and treatment of hepatocellular carcinoma and non-oncology indications globally.

Starpharma Holdings Ltd and Makhteshim Agan Group (Israel): agrochemical collaboration program to apply Starpharma’s Priostar® dendrimer technology to novel crop protection formulations. Makhteshim Agan is the world’s leading manufacturer and distributor of branded off-patent crop and non-crop protection products.

Bioniche Life Sciences Inc. (ASX:BNC) received a contribution of up to $0.5 million from the National Research Council of Canada’s Industrial Research Assistance Program to offset salary costs and contractor fees associated with research and development of a second generation *E. Coli* O157 cattle vaccine, to reduce human exposure to the bacterium.

Phylogica Ltd (ASX:PYC) was awarded an Innovation Vouchers Program grant of $20,000 by the Western Australian government, to be used to fund commercialisation of its AP-1 inhibitory peptides for the treatment of inflammatory disorders.

Prima BioMed Ltd (ASX:PRR) and the Fraunhofer Institute of Cell Therapy and Immunology were awarded a EUR 3.8 million grant from the German Federal State of Saxony and the EU to co-fund Phase II clinical trials of CVac™ in three new cancer indications and to scale-up to commercial manufacturing.

1 Australian Securities Exchange website: www.asx.com.au

2 Trading Room website: www.tradingroom.com.au