

## **Circadian and CSIRO enter strategic research alliance to advance development of cancer treatments**

- CSIRO and Circadian collaborate to enhance development of Circadian's VEGF technology for biological-based cancer treatments
- CSIRO provides access to its world class infrastructure and research teams
- Circadian to provide funding and access to its technology

Dr Steve Morton, CSIRO Group Executive, announced today a new long term, strategic alliance between Circadian Technologies (ASX.CIR) and CSIRO to work together on the ongoing research and development of Circadian's VEGF technology to develop promising new potential treatments for cancer.

The alliance is part of the CSIRO's program to assist and facilitate development of new technologies with Australian biotech companies and will see CSIRO and Circadian collaborate in activities to aid the development of Circadian's novel, biologics-based treatments for cancer and other serious diseases.

Circadian will provide funding and access to its technology and lead drug candidates (molecules), while CSIRO will provide access to its world class biological production infrastructure, process development capability and internal research expertise. The announcement comes on the opening day of the new Protein Production Facility at CSIRO funded by both the Federal and State Victorian Governments. This Facility forms a significant part of CSIRO's infrastructure capability that is accessible to the Australian Biotech industry.

VEGF technology refers to Vascular Endothelial Growth Factors (VEGF), a class of proteins that play a critical role in regulating tumour blood supply. Circadian, which owns extensive intellectual property related to VEGF-C, VEGF-D and VEGF receptor R3, is developing antibodies to block these proteins to inhibit the growth and spread of cancerous cells or tumours.

Given the outstanding success of Avastin®, the first cancer treatment developed based on this approach by blocking the activity of VEGF-A, the development of antibodies targeting the VEGF proteins is arguably one of the most promising potential new treatment approaches for cancer.

Specifically, the CSIRO and Circadian alliance will focus on the development of improved production systems for Circadian's molecules, molecular modelling, assay development, testing of future drug candidates as well as other projects which may be mutually agreed by the parties.

Robert Klupacs, CEO of Circadian said: "We are extremely excited by this collaboration. Having

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access to CSIRO's world class infrastructure and research expertise will greatly assist us in bringing our molecules to the clinic. Circadian has a strong position in this area of potential therapeutics for cancer and we applaud the vision of the CSIRO to work closely with Australian companies such as ours, encouraging us to continue to develop important new treatments and innovations which may one day have the potential to impact on many lives globally."

Dr Steve Morton CSIRO Group Executive said: "CSIRO is very pleased to be working with Circadian, an Australian biotech company, to advance its product development pipeline. This alliance highlights that there is already industry uptake of our new Protein Production Facility and research capability. CSIRO is all about partnering with and delivering to Australian industry and our new Facility will be a key enabler for the biotech industry. "

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### **About Circadian Technologies Limited**

Circadian (ASX:CIR) is a biologics drug developer utilising the significant intellectual property portfolio around Vascular Endothelial Growth Factor (VEGF) C and D that it has accumulated in its unlisted wholly owned subsidiary Vegemics. The applications for the VEGF technology, which functions in regulating blood supply, are substantial and broad. Circadian's internal product development programs are focussed on novel anti-cancer therapeutics for large unmet needs. Circadian has also licensed rights to some parts of its intellectual property portfolio for the development of other products to ImClone Systems (a wholly owned subsidiary of Eli Lilly & Company - NYSE: LLY). ImClone Systems is currently developing an antibody-based drug targeting VEGFR-3 for the treatment of solid tumours.

The VEGF patent portfolio developed by the Ludwig Institute for Cancer Research Ltd and Licentia Ltd has been assigned to Vegemics. Vegemics also has rights to CoGenesys Inc/Human Genome Sciences Inc's VEGF-C intellectual property.

### **About Circadian's pipeline of treatments for cancer**

The clinical and outstanding commercial success of Avastin®, an antibody that blocks the activity of VEGF-A, clinically validated anti-angiogenic drugs as an effective means of inhibiting solid tumour growth. By blocking the interaction of VEGF-A with its receptors, primarily VEGFR-2, the multi-billion dollar cancer therapeutic slows tumour growth by inhibiting blood vessel recruitment into the tumour, effectively starving tumours of essential nutrients and oxygen required for growth. Avastin, which is sold by Genentech, now part of Roche, had U.S. sales in 2008 of US\$2.7 billion and worldwide sales in excess of US\$7.5 billion.

VEGF-C and VEGF-D inhibitors, VGX-100, VGX-200 and VGX-300, are key therapeutics in the portfolio of Circadian's unlisted subsidiary Vegemics, which block these alternative stimulators for VEGFR-2. As such, they have the potential to block blood vessel growth in tumours resistant to anti-VEGF-A therapy and, when used in combination with drugs like Avastin®, may completely shut down angiogenesis (the growth of blood vessels) mediated by VEGFR-2, resulting in greater clinical efficacy.

VEGF-C and VEGF-D are also the only known proteins to bind and activate VEGFR-3 which drives lymphatic vessel and tumour-associated blood vessel growth. Inhibitors of VEGF-C, VEGF-D and VEGFR-3 thus have therapeutic potential to inhibit not only primary tumour growth through their anti-angiogenic activities, but to also inhibit tumour spread or metastasis via the lymphatic vessels - a mechanism of tumour dissemination that is often the deadliest aspect of many tumour types and a mechanism that is not effectively blocked by anti-VEGF-A or anti-VEGFR-2 therapeutics.

**About CSIRO**

CSIRO is Australia's national science agency and one of the largest and most diverse research agencies in the world. CSIRO's research in materials and manufacturing will continue to assist Australia grow a high-value, globally competitive manufacturing sector. We undertake research with partners in key manufacturing sectors including biotechnology to advance their product development pipelines.

For more information about CSIRO please go to [www.csiro.au](http://www.csiro.au)

For more information about the New Facility please go to [www.csiro.au/places/Recombinant-Protein-Facility.html](http://www.csiro.au/places/Recombinant-Protein-Facility.html)