



Living Cell Technologies Limited

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ASX: LCT
OTCQX: LVCLY

ASX ANNOUNCEMENT

LCT files pericyte protective agent provisional patent

7 November 2017 – Sydney, Australia & Auckland, New Zealand – Living Cell Technologies Limited has filed a provisional patent for pericyte protective agents titled "PERICYTE PROTECTIVE AGENTS FOR NEUROLOGICAL DISORDERS INCLUDING NEURODEGENERATIVE DISEASES, CENTRAL NERVOUS SYSTEM DISEASES AND OTHERS".

The invention in this provisional patent arises from LCT's research collaboration with the Centre for Brain Research (CBR) at The University of Auckland. The research collaboration explored how LCT's products can reverse human brain neurodegenerative processes associated with pericytes (and other brain cells), which help sustain the blood-brain barrier and other homeostatic and haemostatic functions in the brain.

The project had two primary goals. The first was to extend the pipeline for LCT's lead product NTCELL[®] by examining the effects of NTCELL on cell cultures derived from human brains with Alzheimer's disease and Parkinson's disease. The second was to identify neuroactive constituents of NTCELL and their site of action.

The research was undertaken by Auckland UniServices Limited (UniServices), the commercial research company of The University of Auckland, using the breakthrough drug testing and drug target validation platform, Neurovalida. Neurovalida, developed by Professor Mike Dragunow, Distinguished Professor Sir Richard Faull and Associate Professor Maurice Curtis from the CBR, provides human brain-based neuroscience research collaborations, partnerships and services.

CEO of Living Cell Technologies, Dr Ken Taylor, says he is delighted that the project using CBR's world class capabilities has resulted in the filing of this provisional patent.

"This will enable LCT to build and extend its expertise on the efficacy of cell therapies which have the potential to treat neurodegenerative disorders. Most important is the ability to generate data from human brain tissue cultures in vitro to lead us to the identification of neuroprotective product candidates."

Director of the CBR, Distinguished Professor Sir Richard Faull, says he pleased that the project outcome has been so successful.

"The team at the Centre for Brain Research is proud to be part of this collaboration researching disease modifying treatments for Parkinson's, Alzheimer's and other neurodegenerative diseases.

"This is a great example of translational neuroscience," he added.

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For further information: www.lctglobal.com

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About NTCELL

NTCELL® is an alginate coated capsule containing clusters of neonatal porcine choroid plexus cells that are sourced from a unique herd of designated pathogen-free pigs bred from stock originally discovered in the remote sub-Antarctic Auckland Islands. Choroid plexus cells are naturally occurring “support” cells for the brain and secrete cerebrospinal fluid (CSF), which contains a range of factors that support nerve cell functions and protective enzymes that are crucial for nerve growth and healthy functioning. In NTCELL, the porcine choroid plexus cells are coated with LCT’s propriety technology IMMUPEL™ to protect them from attack by the immune system. Therefore, no immunosuppressive regimen is required for treatment.

Following implantation into a damaged site within the brain, NTCELL functions as a neurochemical factory producing CSF and secreting multiple nerve growth factors that promote new central nervous system (CNS) growth and repair disease-induced nerve degeneration while potentially removing waste products such as amyloids and proteins.

LCT has filed PCT application No. PCT/US2016/032543 entitled “Treatment of CNS disease with encapsulated inducible choroid plexus cells” and US application No. 15/154,709 was published 15 December 2016. LCT also has gene chip analysis of NTCELL identifying multiple growth and trophic factors, antioxidants, chaperone molecules and other bioactive components.

NTCELL has the potential to treat neurodegenerative diseases because choroid plexus cells help produce CSF as well as a range of neurotrophins (nerve growth factors) that have been shown to protect against neuron (nerve) cell death in animal models of disease. NTCELL has been shown in preclinical studies to regenerate damaged tissue and restore function in animal models of Parkinson’s disease, stroke, Huntington’s disease, hearing loss and other non-neurological conditions, such as wound healing. In addition to Parkinson’s disease, NTCELL has the potential to be used in a number of other CNS indications, including Huntington’s, Alzheimer’s and motor neurone diseases including amyotrophic lateral sclerosis (ALS).

About Parkinson’s disease

Parkinson’s disease is a progressive neurological condition characterised by a loss of brain cells that produce dopamine (a neurotransmitter that conveys messages between brain cells to ensure effective movement and planning of movement) and many other types of neurons. People with Parkinson’s disease experience reduced and slow movement (hypokinesia and bradykinesia), rigidity and tremors.

Parkinson’s disease is the second most common neurodegenerative disorder after Alzheimer’s disease, affecting approximately 7 million people worldwide. The average age of onset is 60 years, and the incidence increases with age. Men are one and a half times more likely to have Parkinson’s disease than women.

Current treatments for Parkinson’s disease are symptomatic and do not reverse or slow the degeneration of neurons in the brain. Most existing pharmaceutical treatment options focus on restoring the balance of dopamine and other neurotransmitters. The effectiveness of dopamine replacement therapy declines as the disease progresses. When dopamine treatments are no longer useful, some patients are treated with Deep Brain Stimulation (DBS), in which a medical device is surgically implanted in the brain in order to send electrical impulses to regions of the brain involved in the control of movement. While DBS leads to short-term symptomatic improvement, it does not impact disease progression and is not curative or neuroprotective.

About Living Cell Technologies

Living Cell Technologies Limited (LCT) is an Australasian biotechnology company improving the wellbeing of people with serious diseases worldwide by discovering, developing and commercialising regenerative treatments which restore function using naturally occurring cells.

LCT's lead product, NTCELL[®], is an alginate coated capsule containing clusters of neonatal porcine choroid plexus cells. After implantation NTCELL functions as a biological factory, producing factors to promote new central nervous system growth and repair disease-induced nerve degeneration.

The Phase I/IIa clinical trial of NTCELL for the treatment of Parkinson's disease, in New Zealand, met the primary endpoint of safety and halted the progression of the disease two and a half years after implant. Results from this trial were used to design a larger Phase IIb trial to confirm the most effective dose of NTCELL, define any placebo component of the response and further identify the initial target Parkinson's disease patient sub group. This trial commenced in March 2016. If the trial is successful, the company will apply for provisional consent to treat paying patients in New Zealand and launch NTCELL as the first disease modifying treatment for Parkinson's disease in 2018.

In addition to Parkinson's disease, NTCELL has the potential to be used in a number of other central nervous system indications, including Huntington's, Alzheimer's and motor neurone diseases including amyotrophic lateral sclerosis (ALS).

LCT's proprietary encapsulation technology, IMMUPEL[™], allows cell therapies to be used without the need for co-treatment with drugs that suppress the immune system.

LCT is listed on the Australian (ASX: LCT) and US (OTCQX: LVCLY) stock exchanges. The company is incorporated in Australia, with its operations based in New Zealand.

For more information visit www.lctglobal.com or follow @lctglobal on Twitter.

About The Centre for Brain Research at The University of Auckland

The Centre for Brain Research is a unique partnership between scientists, clinicians and the community. Established in 2009, the centre excels in world-class neuroscience research carried out by cross-faculty research teams, alongside clinical collaborations with leading neurologists, neurosurgeons and physicians in New Zealand and around the world.

Scientists, doctors and students work at every level; from the laboratory to the clinic to the whanau and community. By working together the CBR aims to provide a brighter future for people and families affected by brain disease.

About Auckland UniServices Limited

UniServices connects the best minds in business and academia to apply intelligent thinking to ideas that have the potential to change the world. The University of Auckland and UniServices has been ranked as the most innovative university in New Zealand and Australia in the inaugural Reuters Top 75: Asia's Most Innovative Universities rankings. It has been identified by a Massachusetts Institute of Technology (MIT) study as one of the top five world-leading entrepreneurial universities "under challenging conditions". (MIT Skoltech Initiative). It is the only New Zealand University ranked in the top 100 in the QS World University Rankings. It is also the highest ranked New Zealand University in the Times Higher Education World University Rankings.

Forward-looking statements

This document may contain certain forward-looking statements, relating to LCT's business, which can be identified by the use of forward-looking terminology such as "promising," "plans," "anticipated,"

"will," "project," "believe," "forecast," "expected," "estimated," "targeting," "aiming," "set to," "potential," "seeking to," "goal," "could provide," "intends," "is being developed," "could be," "on track," or similar expressions, or by express or implied discussions regarding potential filings or marketing approvals, or potential future sales of product candidates. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no assurance that any existing or future regulatory filings will satisfy the FDA's and other health authorities' requirements regarding any one or more product candidates nor can there be any assurance that such product candidates will be approved by any health authorities for sale in any market or that they will reach any particular level of sales. In particular, management's expectations regarding the approval and commercialisation of the product candidates could be affected by, among other things, unexpected clinical trial results, including additional analysis of existing clinical data, and new clinical data; unexpected regulatory actions or delays, or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry, and general public pricing pressures; and additional factors that involve significant risks and uncertainties about our products, product candidates, financial results and business prospects. Should one or more of these risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated or expected. LCT is providing this information and does not assume any obligation to update any forward-looking statements contained in this document as a result of new information, future events or developments or otherwise.