

Regenerative cell therapy offers hope for Australians with Parkinson's disease

17 June 2013 – Sydney, Australia – A new cell therapy for Parkinson's disease may regenerate damaged tissue in the brain, according to the exciting results of preclinical studies which are to be presented at the International Congress of Parkinson's Disease and Movement Disorders in Sydney today.

The cell therapy, known as NTCELL[®], is being developed for the treatment of Parkinson's disease by Australian registered biotechnology company, Living Cell Technologies Limited (ASX: LCT), and is currently in Phase I clinical trials in humans.

NTCELL is transplanted into the affected area of the brain that can no longer produce dopamine – a neurotransmitter which conveys messages between brain cells to ensure effective movement and planning of movement. The cell therapy is coated in a protective capsule to prevent it from attack from the patient's immune system.

One in every 350 Australians lives with Parkinson's disease and 30 more people are diagnosed with the disease each day. The current standard treatment for Parkinson's disease is dopamine replacement therapy, but for many patients, these drugs become ineffective over time.

Unlike current therapy options for Parkinson's disease, NTCELL is neuroprotective and offers people living with the disease the hope of being able to halt disease progression and restore quality of life. "NTCELL has shown a significant benefit in animal models of Parkinson's disease," Dr Paul Tan, Chief Science and Medical Officer of LCT said at the congress today. "There was recovery from movement abnormalities, improvements in neurological defects and a demonstrative increase in neural connections and number of dopamine-producing cells in the affected area of the brain. The therapy was well tolerated with no evidence of inflammation or other adverse reaction. The improvements were seen within two weeks and lasted for at least six months, the trial endpoint."

Parkinson's Australia – a national organisation providing services and support to Australians living with Parkinson's, their families and carers – welcomes the prospect of a new therapy option for the disease: "Parkinson's disease affects 70,000 Australians, with a massive social and economic cost," says Parkinson's Australia President, John Bird. "It is a disorder that clinicians can manage, but not reverse, so studies such as these are a great encouragement for all those affected by this disease."

"The unprecedented results of our preclinical studies suggest that NTCELL can protect brain tissue which would otherwise die, potentially delaying or even preventing the effects of Parkinson's disease," adds Dr Andrea Grant, MD and CEO of LCT. "If the product is shown to be safe and effective in humans in our current Phase I and subsequent clinical trials, registration via a fast-tracked development programme could be possible."

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About Parkinson's disease

Incidence and burden in Australia

- Parkinson's disease – the country's second most common neurological disease after Alzheimer's disease – affects approximately 70,000 Australians and is increasing in numbers (by 17% over the last six years)
- 20% of Australians affected by Parkinson's disease are of working age
- Every year nearly 50,000 years of healthy life are lost to the condition
- The estimated annual burden of the disease is valued at \$7.6 billion

Progression of the disease

- Parkinson's disease is a progressive neurological condition which is related to a deficit of dopamine as a result of degeneration of dopamine-producing brain cells

Pharmaceutical treatment

- Most pharmaceutical treatment options focus on restoring the balance of dopamine and other neurotransmitters
- For many patients, drugs become ineffective as the severity of the symptoms increases over time

Deep brain stimulation

- More recently, high-frequency deep brain stimulation (DBS) of regions of the brain involved in the control of movement has become a widely practised and accepted form of management for complex Parkinson's disease
- DBS does not impact on disease progression, is not curative or neuroprotective and does not improve major non-motor symptoms such as cognition, poor balance or autonomic dysfunction

About Living Cell Technologies

Living Cell Technologies (LCT) is an Australasian biotechnology company and world leader in developing cell therapies to treat diseases with high unmet clinical need. To date, the company has taken two therapeutic candidates into clinical development: DIABECCELL[®], which is currently in late-stage clinical trials for the treatment of Type 1 diabetes and is on track to be commercially available in 2016; and NTCELL[®], which is in Phase I clinical trials in New Zealand for the treatment of Parkinson's disease.

Through an innovative joint venture with international pharmaceutical company Otsuka Pharmaceutical Factory (OPF), LCT has secured funding, based on the achievement of clinical milestones, for the clinical development of DIABECCELL and the Phase I clinical trials of NTCELL in Parkinson's disease. LCT retains a 50% share of future profits from DIABECCELL and NTCELL and a perpetual, exclusive licence to continue to develop products using intellectual property held outside the DOL partnership.

LCT's unique, proprietary technology, IMMUPEL™, allows cell therapies to be used without the need for co-treatment with drugs that suppress the immune system, which often have negative side-effects.

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

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

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