



Living Cell Technologies Ltd

COMPANY ANNOUNCEMENT

Preclinical Studies Suggest that Living Cell Technologies' NeurotrophinCell is Effective in Parkinson's disease

December 11, 2008 – Melbourne, Australia, Auckland, New Zealand and Boulder, USA
– **Living Cell Technologies Limited (ASX: LCT; OTCQX: LVCLY)** today reported that its pipeline product, NeurotrophinCell (NtCell), encapsulated brain choroid plexus cells, may be beneficial in Parkinson's disease.

In preclinical studies, rats with induced Parkinson's disease showed improved limb function and significantly more surviving brain cells after they received implants of NtCell. LCT is now evaluating NtCell for other brain diseases. This data supports extending the clinical indication of NtCell to include Parkinson's disease and LCT has filed a patent to extend its intellectual property to include the use of NtCell in this indication.

Brain choroid plexus cells produce cerebrospinal fluid which contains many different brain growth factors and proteins (neurotrophins) which support the survival and growth of brain cells. In the study, porcine choroid plexus cells were implanted to supply neurotrophins to repair diseased brain tissue. The choroid plexus cells were encapsulated in a gel derived from seaweed to protect them from immune rejection and to permit implantation without using toxic anti-rejection drugs.

NtCell capsules were surgically placed into the area of the brain affected by Parkinson's disease. Compared with controls, treatment with NtCell was followed by normal use of the affected limb and recovery from the abnormal turning behavior characteristic of the disorder in rats. The affected part of the brain of the treated animals showed more dopamine containing cells, the typical cells lost in Parkinson's disease.

Parkinson's disease affects 107 people per 100,000 (prevalence rate) worldwide and occurs more frequently with increasing age. Parkinson's disease is caused by degeneration of the cells in the brain that regulate dopamine. As the dopaminergic brain cells die, the dopamine supply decreases and becomes irregular, and the activity of nerves that regulate muscle tremor malfunction. As the degeneration continues, tremors become increasingly frequent and pronounced. The cell degeneration has many causes but the principal cause is decreased production of local brain hormones. Current treatment with dopamine replacement is usually effective initially but wanes over time.

LCT has previously published data on the effects of choroid plexus transplants in the treatment of brain diseases¹ and additional publications include studies demonstrating that NtCell implants also benefit rats with Huntington's disease and stroke^{2,3}.

NtCell is LCT's pipeline product in development supported by a grant from the Foundation for Research Science & Technology, New Zealand government, which also funds the Company's lead product DIABECCELL[®] for the treatment of insulin dependent type 1 diabetes. DIABECCELL[®] is presently in Phase I/IIa clinical trials in Russia and New Zealand.

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- 1) Skinner SJ, Geaney MS, Rush R, Rogers ML, Emerich DF, Thanos CG, Vasconcellos AV, Tan PL, Elliott RB. Choroid plexus transplants in the treatment of brain diseases. *Xenotransplantation*. 2006 Jul;13(4):284-8. Review.
- 2) Borlongan CV, Skinner SJ, Geaney M, Vasconcellos AV, Elliott RB, Emerich DF. Neuroprotection by encapsulated choroid plexus in a rodent model of Huntington's disease. *Neuroreport*. 2004 Nov 15;15(16):2521-5.
- 3) Borlongan CV, Skinner SJ, Geaney M, Vasconcellos AV, Elliott RB, Emerich DF. Intracerebral transplantation of porcine choroid plexus provides structural and functional neuroprotection in a rodent model of stroke. *Stroke*. 2004 Sep;35(9):2206-10. Epub 2004 Jul 29.

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About Living Cell Technologies: www.lctglobal.com

Living Cell Technologies (LCT) is developing cell-based products to treat life threatening human diseases. The Company owns a biocertified pig herd that it uses as a source of cells for treating diabetes and neurological disorders. For patients with type 1 diabetes, the Company transplants microencapsulated islet cells so that near-normal blood glucose levels may be achieved without the need for administration of insulin or at significantly reduced levels. The company entered clinical trials for its diabetes product in 2007. For the treatment of Huntington's disease and other neurological disorders, the company transplants microencapsulated choroid plexus cells that deliver beneficial proteins and neurotrophic factors to the brain. LCT's technology enables healthy living cells to be injected into patients to replace or repair damaged tissue without requiring the use of immunosuppressive drugs to prevent rejection. LCT also offers medical-grade porcine-derived products for the repair and replacement of damaged tissues, as well as for research and other purposes.

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