Parkinson’s Disease – Xenotransplant NTCELL®
Obesity – Long-acting Pramlintide Analogue
Migraine – Long-acting CGRP Antagonist

Parkinson’s disease – Xenotransplant NTCELL
NTCELL comprises encapsulated porcine neonatal choroid plexus cells that, when implanted into the putamen, act as a neurochemical factory secreting multiple neuroactive agents. A clinically relevant improvement has been observed in Parkinson’s patients at 24 months post implantation.

NTCELL technology
Porcine choroid plexus cells produce a range of neurotrophic and growth factors (e.g. VEGF, IGFs and BDNF). The secretion of VEGF has been shown to provide a neuroprotective effect upon dopaminergic neurons in an experimental model of Parkinson’s disease. Choroid plexus cells also release agents that are antioxidants and chaperone proteins responsible for removing plaque-generating proteins and neurofibriillary tangles. LCT has developed choroid plexus cells from a breed of domesticated designated pathogen free pigs. These cells are encapsulated in alginate microcapsules which permit the inward passage of nutrients and the outward passage of neural proteins and compounds normally secreted by choroid plexus cells, but shield them from the recipient’s immune system. Implantation utilizes existing technologies employed in Deep Brain Stimulation (DBS).

Migraine – Long-acting CGRP antagonist
Calcitonin gene related peptide (CGRP) is known to be a key neurochemical in causing migraine. Recently CGRP antibodies and receptor blockers have shown clinical activity. LCT has completed a pre-clinical pilot study demonstrating that long-acting CGRP peptide antagonists have activity in a pre-clinical model. We will complete pre-clinical development in 2019 enabling a Phase 1 clinical study in 2020. The study goal is to demonstrate that this compound can be given as a once daily injection to treat migraine.

Project timelines

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<td>NTCELL for Parkinson’s Disease</td>
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Investment out-licence opportunity
Living Cell Technologies is an Australasian biotechnology company improving the wellbeing of people with serious diseases worldwide by discovering, developing and commercialising regenerative treatments which include naturally occurring cells to restore function.

LCT’s operations are based in Auckland, New Zealand. It has a close liaison with University of Auckland. LCT’s expertise is in translational neuroscience. It can take an innovative compound through pre-clinical development to clinical proof of principle. LCT would then consider global out-licence or investment to complete product commercialisation.

Key people
Ken Taylor – Chief Executive Officer
Janice Lam – Chief Operating Officer
Daya Uka – Chief Financial Officer
Michelle Lockhart - Regulatory

Key advisors
Barry Snow – Principal investigator (Parkinson’s disease)
Richard Faulk – Scientific Advisory Board
Roger Barker – Medical Advisory Board
Margaret Brimble – Principal investigator (Obesity & Migraine)
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