



CEO Presentation to AGM

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07 November 2019

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SAFE HARBOUR STATEMENT



This document contains 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 as of the date of this presentation and, subject to law, 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.

LCT Current Status – Time and Money



1. Annual Report 2018-2019 outlines strategy
2. Includes audited finance report
3. LCT going concern - No tags
4. NZD 4million (Dec 2019) cash - Runway to Mar 2021
5. Complete obesity and migraine projects to out-license exit
6. NTCELL[®] – feasibility of 3 year clinical efficacy study

Complete Obesity and Migraine Projects



Both projects target an exit within 2 years

Exit - Clinical efficacy – out-license to big pharma

Huge markets of big pharma interest

Globally competitive science and scientists

Long patent life

Attractive in-license condition

Clinical efficacy biomarker – short duration of clinical studies

LP-003

✿ Targets Obesity

LC-002

✿ Targets Migraine

LP-003 for Obesity

All diets fail due to hunger

LP-003 injection blocks CNS hunger centre



Market Need

- ❖ 1.9 billion overweight
- ❖ Morbid obesity treatment – must lose 100kg before bariatric surgery

LP-003 is Long-acting Pramlintide

- ❖ Pramlintide (Symlin[®]) - FDA approved for Diabetes in conjunction with insulin
- ❖ Known safety profile
- ❖ **Obese patients treated with Pramlintide lose weight**
- ❖ Short duration of effect – requires three times daily injections

Product Opportunity in Obesity

- ❖ Long-acting Pramlintide Analogue
 - Patented
 - Once daily injection
 - Extended plasma half-life
 - Albumin binding
 - Protection from protease degradation
 - Subcutaneous administration

LP-003 Anti-obesity Mechanism of Action



- ❖ **Amylin** infusions reduce eating and increase energy expenditure
- ❖ **Amylin** is the satiation signal that is a physiological regulator of meal size
- ❖ **Pramlintide** is an amylin receptor stimulant
- ❖ **Pramlintide** in humans causes weight loss
- ❖ But it is very short acting as plasma half-life is 13min

- ❖ LP-003 is long acting pramlintide analogue
- ❖ LP-003 targets once a day injection
- ❖ This can be validated in clinical study where blood level and food intake can be measured after a single injection of LP-003

Project – Lipidated Pramlintide: BACKGROUND



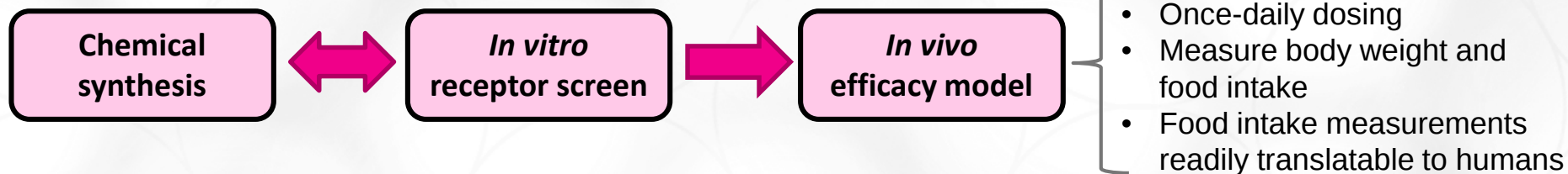
Key indications:

- Obesity
- Pre-bariatric surgery weight loss
- Type 1 diabetes

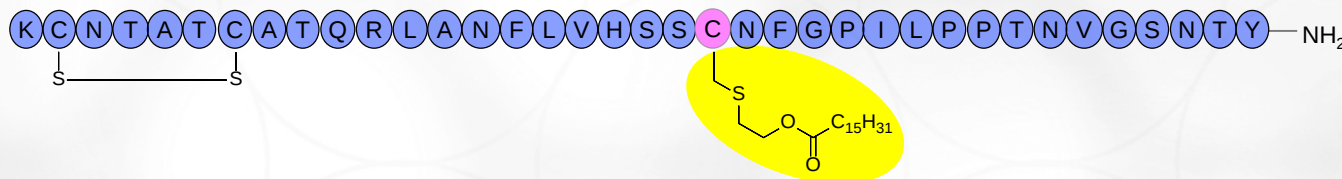
Advantages:

- Tri-amylin receptor agonism
- Once-daily dosing
- No liver toxicity concerns

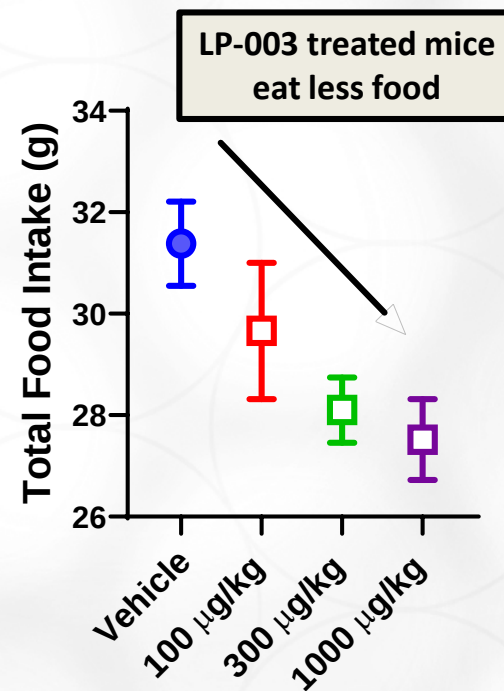
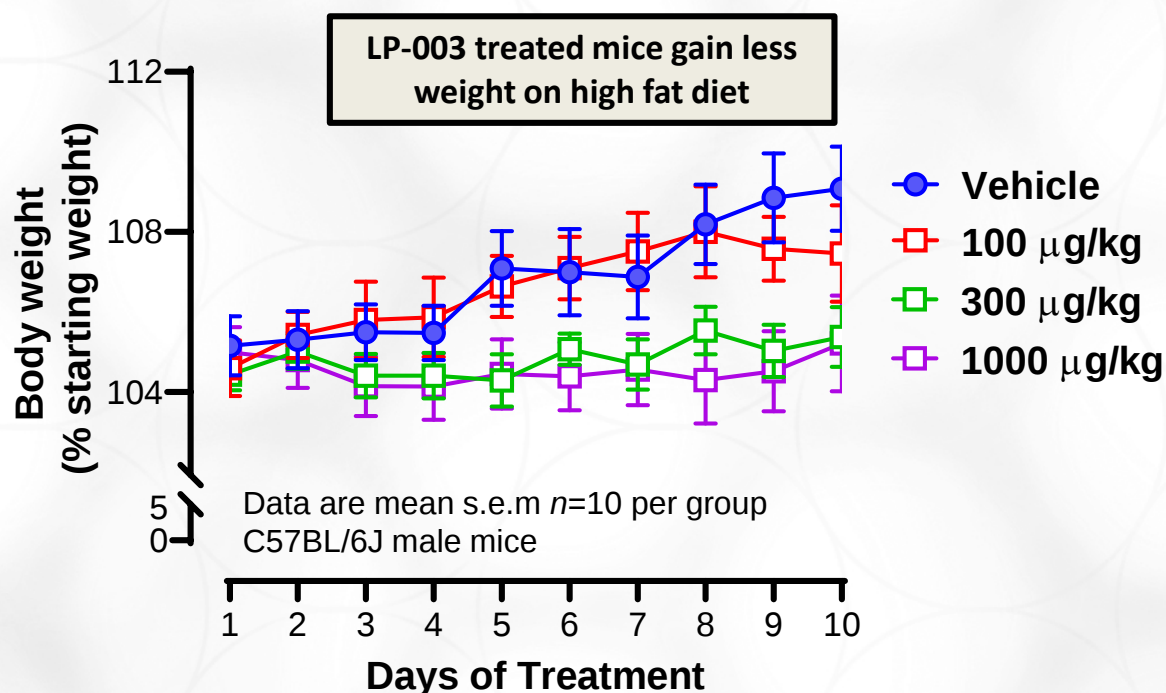
Work flow:



Current lead: LP-003



LP-003 - Pre-clinical efficacy



Anti-obesity - Project Status

- ❖ Lead compounds designed by Distinguished Professor Margaret Brimble and Professor Debbie Hay
- ❖ Global patent protection
- ❖ Current Progress
 - ⦿ Lead compound synthesized Dist. Prof. Margaret Brimble
 - ⦿ Synthesis/Manufacturing GMP Facility Available
 - ⦿ *In vitro* activity confirmed Prof. Debbie Hay
 - ⦿ *In vivo* activity in progress Assoc. Prof Alex Tups (UoO)
 - ⦿ LP-003 inhibits food consumption and inhibits weight gain
 - ⦿ Analytical method confirmed HPLC/Mass spec. (Brimble)
- ❖ Attractive in-license

UoO = University of Otago

LP-003 - Anti-Obesity Next Steps

1. Completion of Pre-clinical Characterisation of Lead Compound

- ❖ *In vitro* profiling and characterisation
- ❖ Biomarker bioassay
- ❖ Pharmacokinetics
- ❖ Toxicology
- ❖ *In vivo* studies – Prof Alex Tups (University of Otago)
 - ⦿ Food intake
 - ⦿ Body weight changes
 - ⦿ Energy Expenditure

2. Clinical Proof of Principle

- ❖ Phase I clinical trial
 - ⦿ Single ascending dose and blood levels.
 - ⦿ Food intake
 - ⦿ Safety
- ❖ Clinical trial site – Auckland Clinical Studies Trust (ACST)

3. Out-license Opportunities

- ❖ Interested global parties
- ❖ Deal Structure – upfront cash, milestone payments, royalties

Obesity - Costs, Timeline and License



❖ Costs

- ⦿ Complete pre-clinical, GMP manufacturing: \$NZD1,346,000
 - Milestone payment schedule
- ⦿ Phase 1: Approx. \$NZD360,000
 - 3 groups of 8 participants (6 active + 2 placebo)

❖ Timeline

- ⦿ Nov 2019 – Mar 2021

❖ License Terms

- ⦿ LCT exclusive license from University of Auckland (UoA)
- ⦿ 92% of revenue to LCT after cost recovery by LCT and UoA

LC-002 for Migraine

LC-002 – Mechanism of Action vs Migraine

Calcitonin Gene Related Peptide (CGRP)

- ❖ Neuropeptide hormone found throughout the central and peripheral nervous system
- ❖ Elevated levels in migraine sufferers
- ❖ Infusion induces migraine

CGRP Receptors

- ❖ Located within pain signaling pathways, intracranial arteries and mast cells
- ❖ Activation causes migraine attacks

LC-002 targets migraine treatment by blocking CGRP receptors:

- ❖ Blocking neurogenic inflammation
 - ⦿ Blocks actions of CGRP released onto outer covering of brain (meninges)
- ❖ Decreases artery dilation
 - ⦿ Inhibits by blocking CGRP receptors located on smooth muscle cells within vessel wall
- ❖ Inhibiting pain transmission
 - ⦿ Suppresses CGRP-induced enhancement of trigeminal nerve pain signals

Migraine – Market Opportunity

CGRP blockade prevents migraine

- ❖ CGRP small molecules
 - First generation gepants – demonstrated efficacy
 - Olcegepant (Boehringer Ingelheim) – discontinued, formulation issues
 - Telcagepant (Merck) – discontinued, liver toxicity
 - Next generation gepants in development – no liver toxicity issues
 - Rimegepant (Biohaven) – NDA submitted Q2 2019
 - Ubrogepant (Allergan) – NDA submitted Q1 2019
 - Atogepant (Allergan) – Phase III clinical trials
- ❖ Monoclonal CGRP Antibodies
 - Three currently FDA approved, fourth submitted to FDA for approval
 - Erenumab (Novartis/Amgen) – FDA approved
 - Fremanezumab (Teva Pharmaceuticals) – FDA approved
 - Galcanezumab (Eli-Lilly) – FDA approved
 - Eptinezumab (Alder Pharmaceuticals) – FDA submission Q2 2019

Opportunity in migraine

- ❖ Long-acting CGRP Peptide Antagonist
 - Extended half-life/activity
 - Longer acting than small molecules, but shorter acting than antibodies
 - Potential multiple receptor activity
 - Once daily dosing
 - Subcutaneous Administration

Project – Lipidated CGRP Antagonists: BACKGROUND



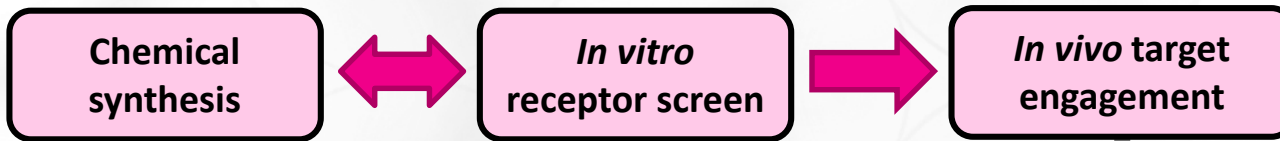
Key indications:

- Migraine
 - Includes menstrual migraine
- Trigeminal neuralgia

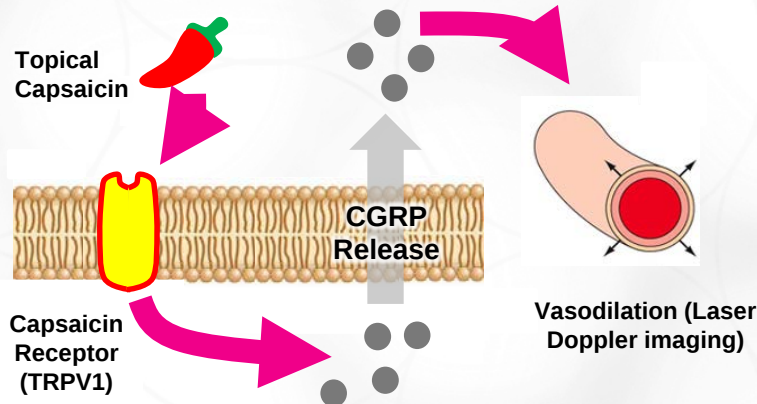
Advantages:

- Dual CGRP receptor antagonism
 - Flexible dosing compared to antibody
 - Fewer liver toxicity concerns relative to small molecules
- Mouse target engagement model
 - Capsaicin-Induced Dermal Vasodilation (CIDV)
 - Gold standard model for CGRP blockade
 - Translatable to humans

Work flow:



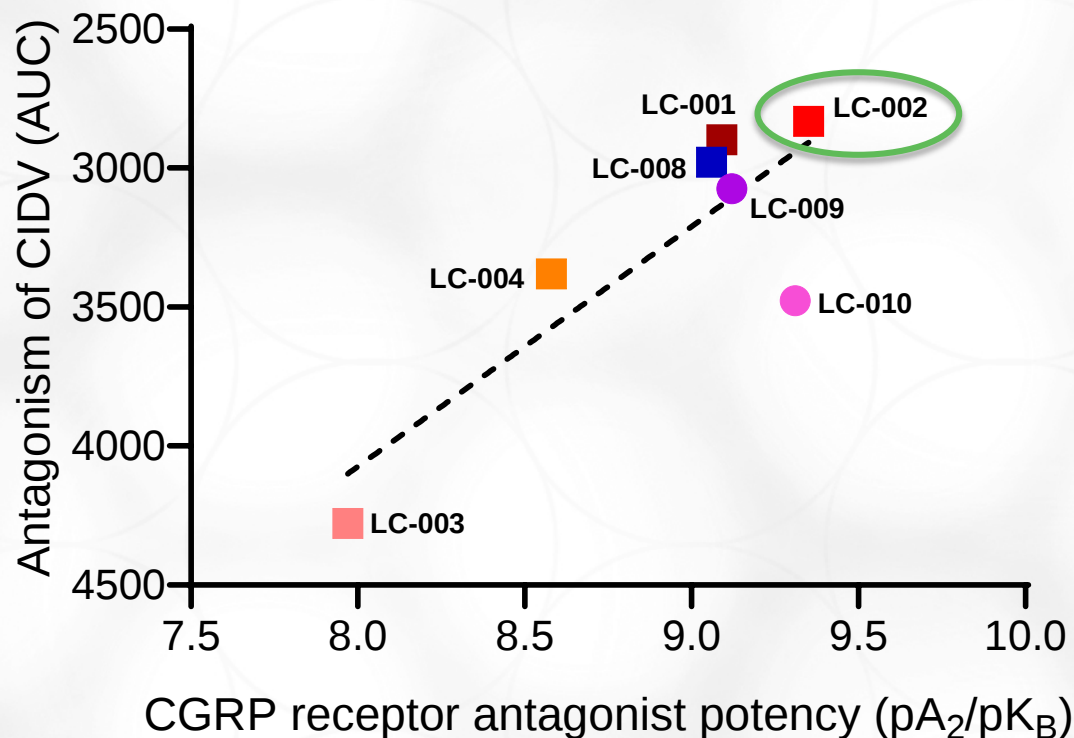
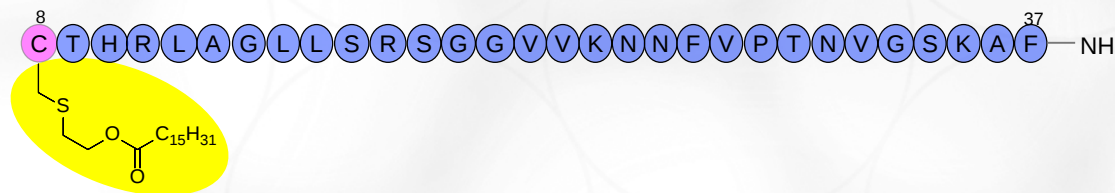
CGRP antagonist reduces CIDV by blocking CGRP receptor binding on blood vessels



LC-002 has high receptor potency and effectively reduces blood flow



Current lead: LC-002



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 - ⦿ Synthesis/Manufacturing GMP Facility Available
 - ⦿ *In vitro* activity confirmed Prof. Debbie Hay
 - ⦿ *In vivo* activity in progress Prof. Debbie Hay
 - ⦿ LC-002 inhibits capsaicin-induced vasodilation
 - ⦿ Analytical method confirmed HPLC/Mass spec. (Brimble)
- ❖ Attractive in-license

Migraine – Next Steps

1. Completion of Pre-clinical Characterisation of LC-002

- ❖ *In vitro* profiling and characterisation
- ❖ Biomarker bioassay
- ❖ Rodent Pharmacokinetics
- ❖ Toxicology
- ❖ Laser Doppler Rodent Model – Target engagement
- ❖ Light Aversion Rodent Model – Behavioural model

2. Clinical Proof of Principle

- ❖ Phase I clinical trial
 - ⦿ Single ascending dose
 - ⦿ Safety
 - ⦿ pK
 - ⦿ Laser doppler measurement
- ❖ Clinical trial site – Auckland Clinical Studies Trust (ACST)

3. Out-license Opportunities

- ❖ Interested global parties
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Migraine – Costs, Timeline and License

❖ Costs

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NTCELL for Parkinson's Disease

NTCELL Parkinson's Disease

1. Market approval requires compelling efficacy data
2. No current disease modifying treatments to define “compelling”
3. Symptomatic treatments ie. L-Dopa define clinical significance as 6 point improvement
4. NTCELL efficacy is greater than 6 points vs baseline at 6, 12, 18 months
5. To progress market approval for NTCELL another clinical study to provide compelling efficacy data vs placebo is required

NTCELL Parkinson's Disease

- ❖ Large numbers needed to overcome individual data variability 30 treated vs 30 placebo
- ❖ Not possible in NZ
- ❖ Need to raise greater than 10million
- ❖ Need approvable GMP manufacturing facility
- ❖ At least 3 year follow-up
- ❖ 5 year project

LCT Cash

- ❖ Dec 2019 Approx. NZD 4 million
- ❖ Callaghan Innovation Grant extended to Mar 2021
 - ⦿ 20% Rebate on Research Spend
 - ⦿ Approx. NZD700k/yr (as a going concern)
- ❖ Cash Runway to approx. Mar, 2021 (dependent on projects)
- ❖ Complete obesity and migraine clinical proof of principle and out-license
- ❖ NTCELL[®] – feasibility of 3 year clinical efficacy study
 - ⦿ Partnership

Thank You