Actinogen Medical

Developing **Xanamem™** for Alzheimer's Dementia

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Actinogen Medical and Xanamem™

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- Stock code ASX: ACW – market cap approximately A$30 million

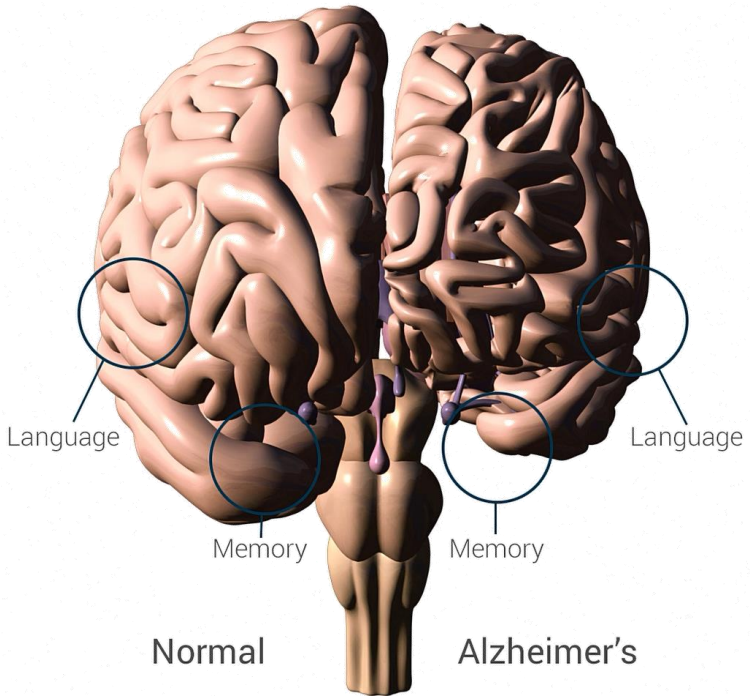
- Developing treatments for chronic degenerative neurological condition
  - Xanamem™ - our lead compound in Alzheimer's Disease
  - Alzheimer's dementia – the largest unmet medical need, with few treatments approved
  - American Alzheimer's Association estimates a healthcare cost last year of US$250bn

- Fully funded for next stage of clinical development
  - Tight capital structure with top 20 shareholders owning > 70% equity
  - 6 month turnaround on next clinical trial results

Xanamem™

- Successful clinical and pre-clinical demonstration
- Excellent thesis of mechanism-of-action around cortisol, the "stress" hormone
- Early development funded by the Wellcome Trust, with $25m invested over 7 year
- US FDA changed indication on Alzheimer's dementia in 2013 to include "Mild Cognitive Impairment"

Alzheimer's Disease & Dementia



- Alzheimer's dementia - a degenerative brain disease with impairment of memory, reason, judgement and language
- No known cure or treatment to slow progression of the disease
- Alzheimer's takes a disastrous toll on the patient and everyone around them
- Patients are robbed of their independence, their relationships and their very identities.

Alzheimer's Affects Cognitive Function

Dementia is typically documented by decreasing performance on neuropsychological tests assessing memory, general knowledge, language, abstract reasoning and the ability to perform particular tasks requiring minimal skill - *' Please draw a clock. Put the hours on it and set the time at 2:45'*

Normal
Score 10

Mild
Cognitive
Impairment
(Numbers error
and
placement
of hands)
Score 8

Moderate
Cognitive
Impairment
Score 4

Severe
Cognitive
Impairment
Score 2

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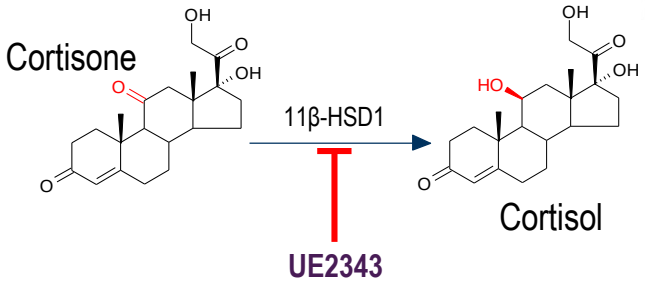
Alzheimer's Disease market

- Six drugs approved, mainly for memory symptoms (Aricept, Exelon, Memary, Rivastach, Raxadyne, Ebixa)
- $5.3bn sales in 2012
- No drug approved for disease modification
- Global AD market – US$10bn
- Multiple Ph3 failures (J&J/Pfizer, Eli Lilly, Baxter, BMS…) – all different MOAs to Xanamem™
- AD market drivers
  - Increasing elderly population (25% AD in 85yo, 50% AD in 95yo)
  - Increasing disease awareness and diagnosis
  - Government and societal initiatives

Xanamem™ – our lead candidate

Xanamem™

- Selective inhibitor of 11β-HSD1 – a novel target for AD
- Patented (year 2028 and beyond)
- Prevents production of cortisol – a stress hormone.



Xanamem™ - a highly selective HSD1 inhibitor

Pre-clinical animal models

- ✓ HSD1 knockout models protect against age-related cognitive impairment
- ✓ Inhibition of HSD1 improves cognition in ageing and AD models
- ✓ Inhibition of HSD1 reduces Aβ plaque burden and plasma Aβ in AD models

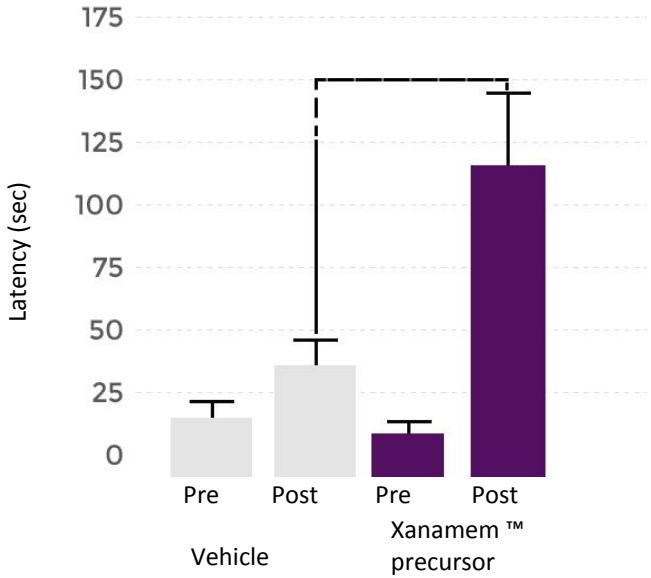
Clinical evidence

- ✓ 11β-HSD1 produces cortisol in the hippocampus – key for memory
- ✓ Cortisol excess leads to reversible memory loss and hippocampal atrophy
- ✓ Elevated cortisol associated with cognitive decline in ageing and AD
- ✓ non-selective inhibition of HSD1 (carbenoxolone) improves cognition in humans

Disease modifying potential of Xanamem™

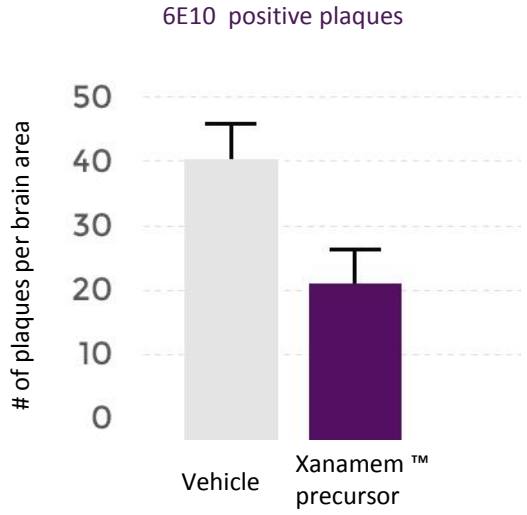
Pre-Clinical data

Cognitive Enhancement with Xanamem™ in AD (Performance in Passive Avoidance Test, treatment for 28 days)



AD - progressive cognitive decline

Xanamem™ reduces number of Aβ plaques in AD brain (28 day treatment)



AD - associated with amyloid plaques in the brain

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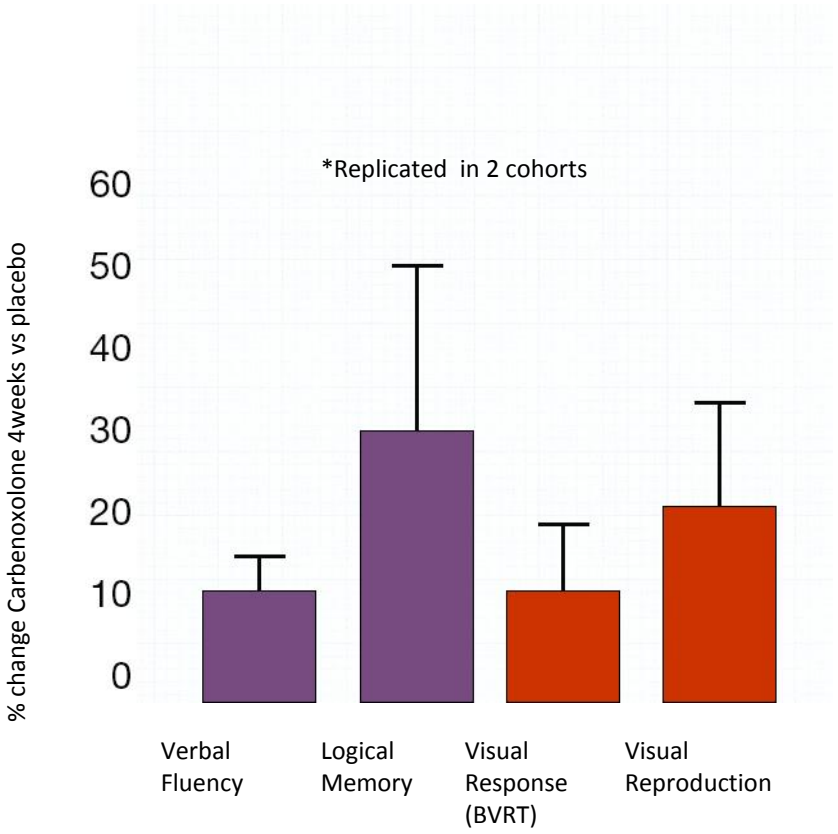
Clinical support of cortisol concept

Pharmacological inhibition of 11β-HSD1 with carbenoxolone improves memory in humans

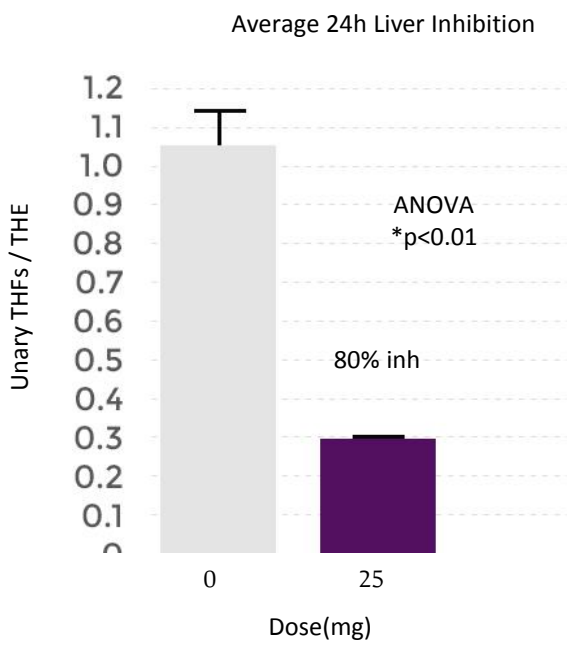
Carbenoxolone, a non-selective 11β-HSD1 inhibitor improved verbal fluency ($p < 0.01$) after 4 weeks in 10 healthy elderly men (aged 55-75 y) and improved verbal memory ($p < 0.01$) after 6 weeks in 12 patients with type 2 diabetes (52-70 y)

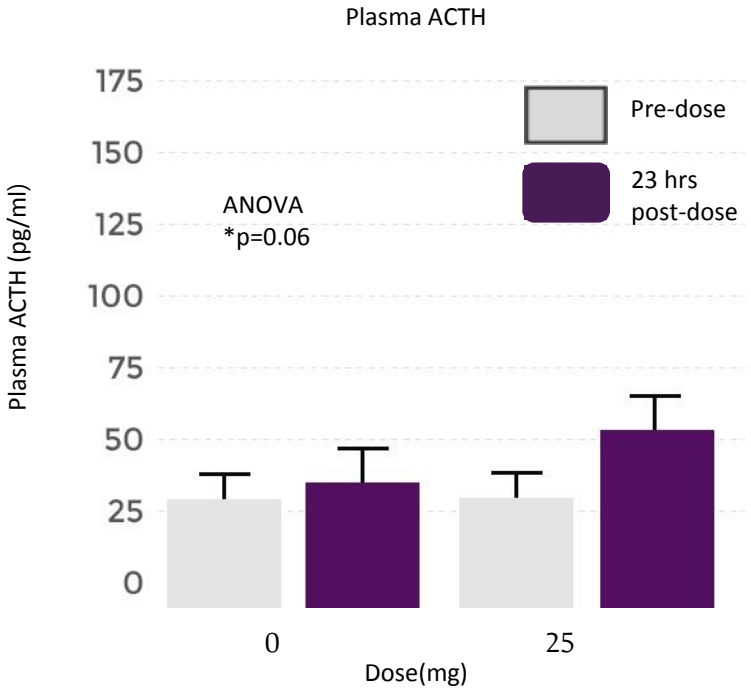


Xanamem™ Ph1 SAD study

Xanamem™ (UE2343) PD Ph1 study (Single Dose)

Maximal enzyme inhibition achieved over 24h with a single 25mg dose of Xanamem™ in Phase I study in humans.





Clinical Development

- Phase I (MAD) and fast-fed study to start early 2015 (6 months to complete)
  - submitted for ethics approval
  - Results by mid-2015
- Phase II efficacy study in patients with Alzheimer's and Mild Cognitive Impairment to start late 2015 / early 2016

Future development in indications of high unmet medical need:

- Mild Cognitive impairment
- Cognitive dysfunction in schizophrenia
- PTSD - Post Traumatic Stress Disorder
- Type 2 Diabetes
- Cushing's syndrome or Obesity
- Substance abuse

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