

Developing Xanamem™ for Alzheimer's Dementia

Dr. Bill Ketelbey

CEO and Managing Director, Actinogen Medical

Biotech & Healthcare Investor Roadshow

Melbourne & Sydney – July 2015



Actinogen
Medical

Forward Statements



This presentation has been prepared by Actinogen Limited. (“Actinogen” or the “Company”) based on information available to it as at the date of this presentation. The information in this presentation is provided in summary form and does not contain all information necessary to make an investment decision.

This presentation does not constitute an offer, invitation, solicitation or recommendation with respect to the purchase or sale of any security in Actinogen, nor does it constitute financial product advice or take into account any individual’s investment objectives, taxation situation, financial situation or needs. An investor must not act on the basis of any matter contained in this presentation but must make its own assessment of Actinogen and conduct its own investigations. Before making an investment decision, investors should consider the appropriateness of the information having regard to their own objectives, financial situation and needs, and seek legal, taxation and financial advice appropriate to their jurisdiction and circumstances. Actinogen is not licensed to provide financial product advice in respect of its securities or any other financial products. Cooling off rights do not apply to the acquisition of Actinogen securities.

Although reasonable care has been taken to ensure that the facts stated in this presentation are accurate and that the opinions expressed are fair and reasonable, no representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this presentation. To the maximum extent permitted by law, none of Actinogen its officers, directors, employees and agents, nor any other person, accepts any responsibility and liability for the content of this presentation including, without limitation, any liability arising from fault or negligence, for any loss arising from the use of or reliance on any of the information contained in this presentation or otherwise arising in connection with it.

The information presented in this presentation is subject to change without notice and Actinogen does not have any responsibility or obligation to inform you of any matter arising or coming to their notice, after the date of this presentation, which may affect any matter referred to in this presentation.

The distribution of this presentation may be restricted by law and you should observe any such restrictions.

This presentation contains certain forward looking statements that are based on the Company’s management’s beliefs, assumptions and expectations and on information currently available to management. Such forward looking statements involve known and unknown risks, uncertainties, and other factors which may cause the actual results or performance of Actinogen to be materially different from the results or performance expressed or implied by such forward looking statements. Such forward looking statements are based on numerous assumptions regarding the Company’s present and future business strategies and the political and economic environment in which Actinogen will operate in the future, which are subject to change without notice. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward looking statements or other forecast. To the full extent permitted by law, Actinogen and its directors, officers, employees, advisers, agents and intermediaries disclaim any obligation or undertaking to release any updates or revisions to information to reflect any change in any of the information contained in this presentation (including, but not limited to, any assumptions or expectations set out in the presentation).

Alzheimer's - a significant unmet need



Alzheimer's disease is emerging as one of the most significant health challenges of our time

- A person develops AD almost every minute in the US¹
- AD is the second leading cause of death in Australia behind ischaemic heart disease
- Estimated to increase to **US\$1 trillion** by 2050, outstripping the cost of treating all other diseases
- Current treatments provide limited benefit. New and alternative treatments are desperately needed



Alzheimer's is the only cause of death among the top 10 in America that
**CANNOT BE PREVENTED,
CURED OR EVEN SLOWED.**



1 in 3 Seniors
DIES WITH ALZHEIMER'S
or another dementia.

¹Alzheimer's Association- Facts and Figures 2014)
http://www.alz.org/downloads/Facts_Figures_2014.pdf?utm_content=bufferb49b5&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

Xanamem™



In development as a treatment for Alzheimer's disease and prodromal Alzheimer's/mild cognitive impairment



- A novel mechanism of action blocking the production of cortisol (the stress hormone) in the brain
- Excess cortisol associated with reversible memory loss, amyloid plaques and neural death – hallmarks of AD
- Link between excess cortisol and cognitive decline identified in patients with Cushing's disease, Alzheimer's, depression, and in normal aging
- Early development of Xanamem™ funded by the Wellcome Trust - \$25m over seven years
- Second Phase I study complete - data expected mid-2015
- Phase II trial in patients with early and prodromal AD/MCI expected to start in 2016 – study fully funded.
- Xanamem™ is expected to be used in combination with other AD therapies – marketed and in research
- Patent protected to 2031



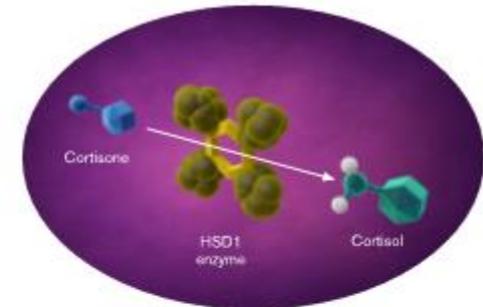
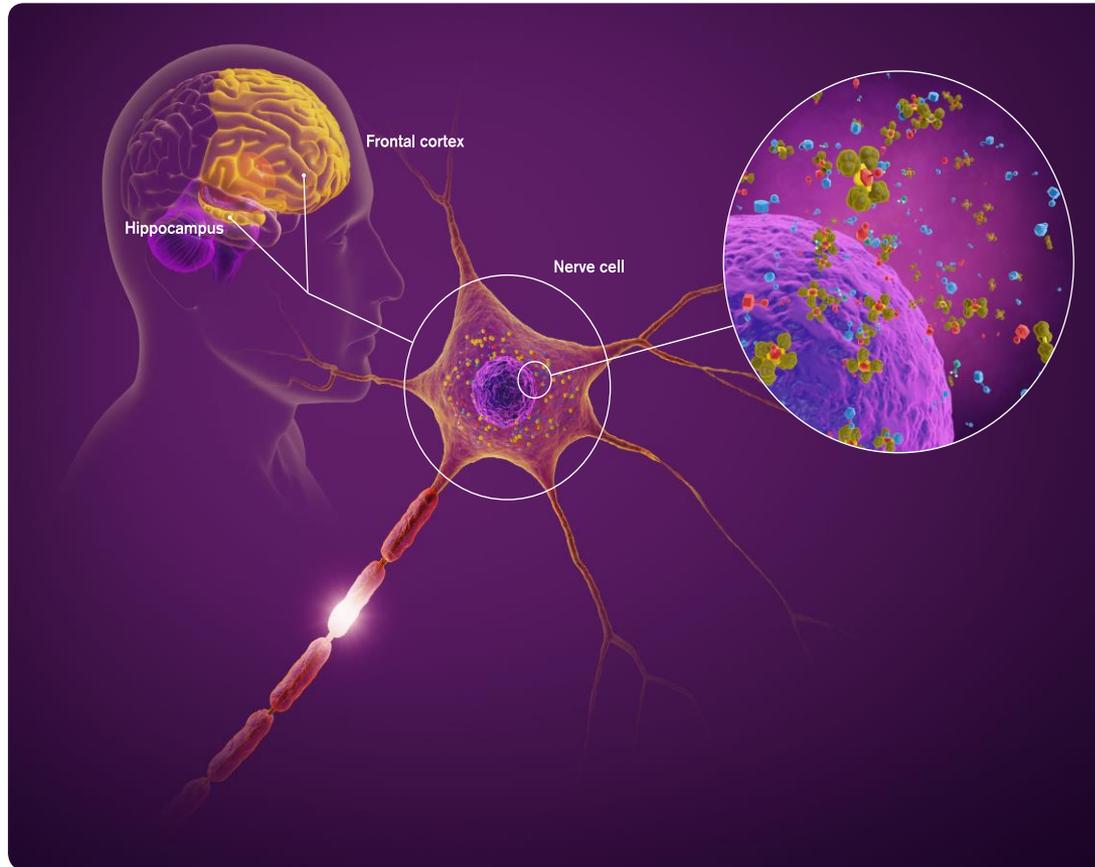
THOMSON REUTERS

recently named Xanamem™ as one of the top five drugs in Phase 1 development in the global pharmaceutical or biotech industries

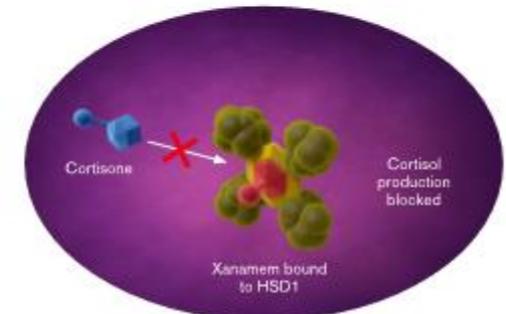
Mechanism of action - a key differentiator



Xanmem™'s novel mechanism of action sets it apart from other AD treatments



HSD1 enzyme activates cortisone producing cortisol



Xanmem™ binds to HSD1, blocking cortisol

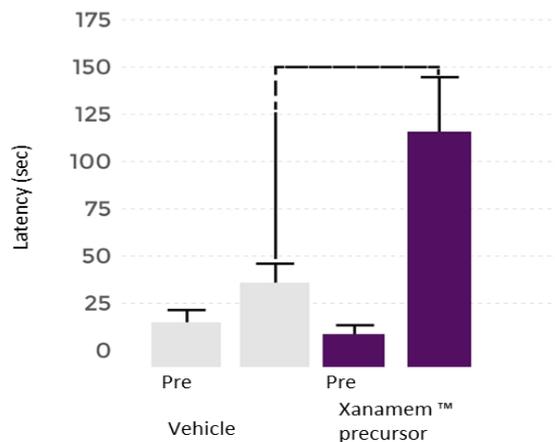
Pre-clinical data



Xanamem™- a highly selective HSD1 inhibitor in pre-clinical animal models.

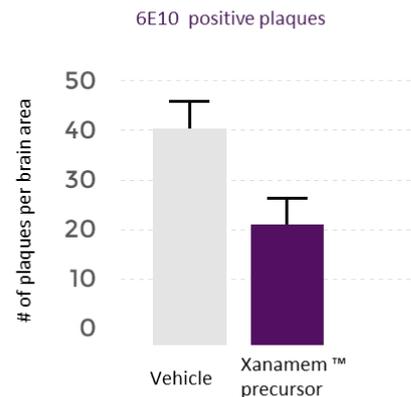
- Inhibition of HSD1 improves cognition in ageing and AD models
- Inhibition of HSD1 reduces A β plaque burden and plasma A β in AD models

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



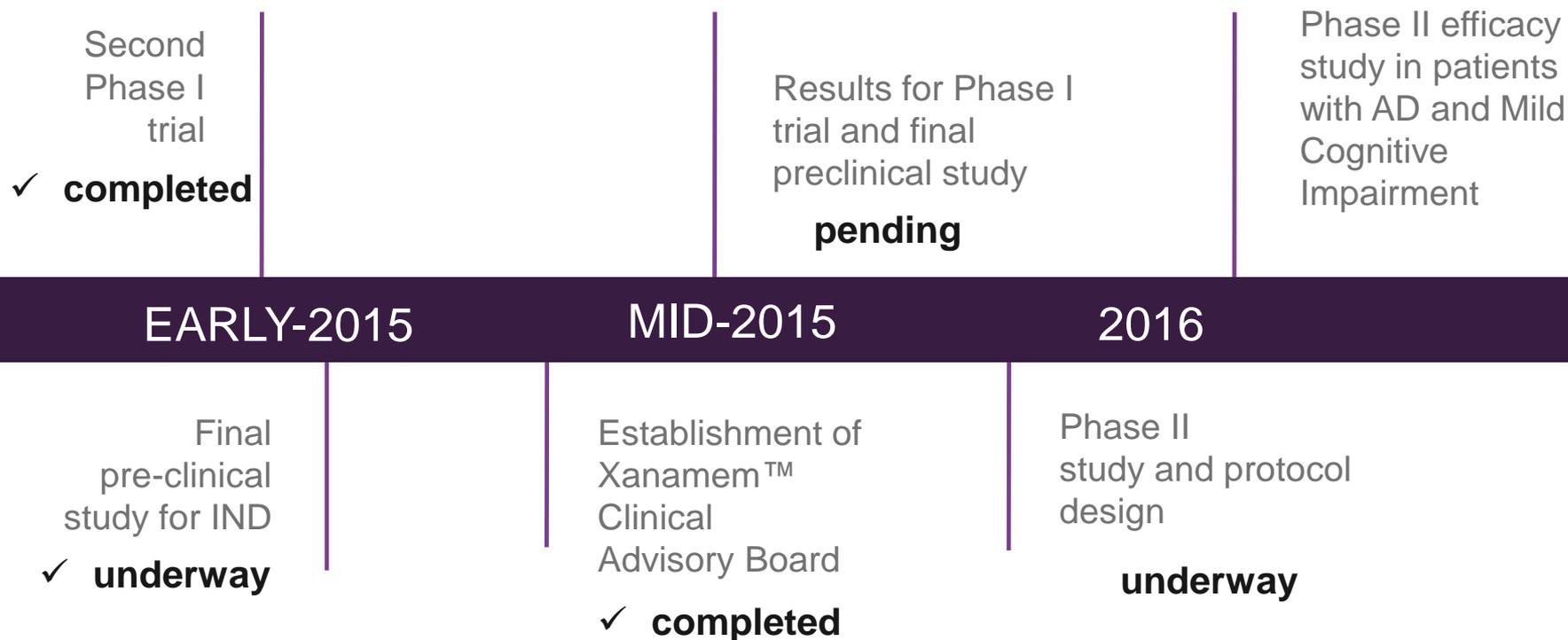
AD - progressive cognitive decline

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



AD - associated with amyloid plaques in the brain

Xanamem™ development milestones



Xanamem™ Clinical Advisory Board



Powerhouse Advisory Board to drive Xanamem™'s clinical development. World experts to help design the optimum Phase II efficacy trial for Xanamem™ in early and prodromal Alzheimer's patients



Prof. Craig Ritchie

- Professor of Psychiatry of Aging, University of Edinburgh, UK
- Senior Investigator in over 30 Alzheimer's clinical trials
- Published extensively on dementia



Prof. Colin Masters

- Professor, University of Melbourne, Australia
- Executive Director of Mental Health Research Institute
- Senior Deputy Director of the Florey Institute of Neuroscience and Mental Health



Prof. Jeffrey Cummings

- Professor of Medicine (Neurology), Cleveland Clinic, Ohio and Nevada, USA
- Chair of the Neurological Institute of Cleveland Clinic
- edited 39 books and published over 650 papers

Xanamem™ Ph II clinical development Edinburgh June 2015



Left-right: Prof Craig Ritchie, Prof Brain Walker, Prof Colin Masters, Martin Rogers, Dr Bill Ketelbey (and mascot), Vincent Ruffles, Dr Scott Webster, Prof Jonathan Seckl. Absent: Prof Jeff Cummings.

The Alzheimer's Phase II trial design meeting – including the Xanamem Clinical Advisory Board, the Xanamem discovery team (Profs. Brain Walker and Jonathan Seckl and Dr Scott Webster) and Actinogen senior management.

Xanamem™ pipeline



Xanamem™'s novel mechanism of action – blocking excess cortisol production – offers many additional possible applications relevant to diseases of the central nervous and endocrine/metabolic systems

- Potential development opportunities:
 - PTSD (post traumatic stress disorder)
 - Cardiovascular disease – post myocardial infarction
 - Diabetes – cognitive dysfunction
 - Diabetes – diabetic foot ulceration
 - Cognitive dysfunction in Parkinson's disease
 - Cognitive dysfunction in schizophrenia, depression



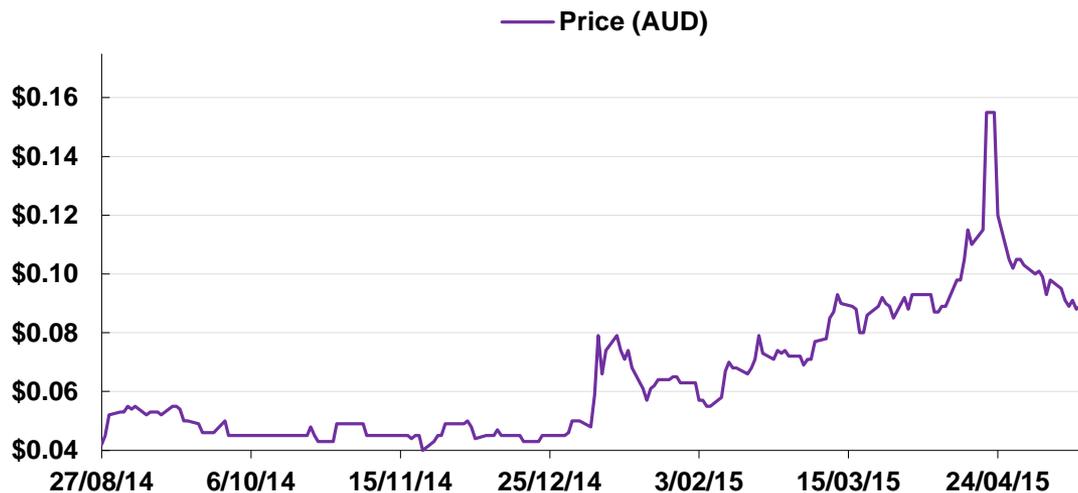
Investment highlights



- Xanamem™ a potential treatment for early and prodromal AD/mild cognitive impairment
- Significant unmet need in a huge and growing global market
- Novel mechanism of action, targeting the stress hormone cortisol – a key differentiator
- Hypothesis backed by good pre-clinical and clinical evidence. Early development funded by Wellcome Trust
- Final Phase I results due mid-2015.
- IND filing with Phase II study in Alzheimer's patients planned for 2016; funded through to the completion of this study
- Expect to be able to use Xanamem™ in combination with other AD therapies – marketed and in research
- Patent protected to 2031
- A number of very significant additional indications being evaluated for development in parallel



Financial profile



Key Corporate Data:

Market Cap.*	~\$46m
Share Price*	\$0.076
Cash**	\$10.4m
Shares on issue^	606.16m

*market cap and share price data as of July 3, 2015

**includes the proceeds from the Placement and SPP. Doesn't include R&D tax rebates

^post Placement and SPP

Top Ten Shareholders	Percentage
Edinburgh Technology Fund Limited	7.94%
Tisia Nominees Pty Ltd	5.55%
JK Nominees Pty Ltd	5.44%
Mr Martin Rogers	4.12%
Warmbi SARL	3.61%
Webinvest Pty Ltd	3.54%
Denlin Nominees Pty Ltd	3.15%
Mr Jason Peterson & Mrs Lisa Peterson	3.05%
Oaktone Nominees Pty Ltd	2.43%
Dr John William Ketelbey	2.04%

Board and Management



A highly experienced Board and Management team with a wealth of drug development, commercialisation and clinical research expertise



Martin Rogers
Chairman

- Biotechnology entrepreneur and executive
- Non-Executive Director of OncoSil (ASX:OSL), Chair of Rhinomed (ASX:RNO)



Bill Ketelbey
CEO

- MD with 30 years' experience in pharmaceuticals
- Senior roles at Pfizer, including development of Aricept™, the current leading AD treatment



Vince Ruffles
VP Clinical
Research

- Extensive drug development experience over 20 years
- Responsible clinical development and regulatory strategy



Jason Loveridge
Non-Executive
Director

- Former head of Nomura Life Sciences Fund in the UK with 28 out of 34 investment wins in investing in Biotech



Anton Uvarov
Non-Executive
Director

- Healthcare and biotech equities analyst, formerly Citibank NY
- Executive Director of Sun Biomedical

Contact details



Head Office Level 9, Suite 1
68 Pitt Street
Sydney NSW 2000

Telephone: +61 (02) 8964 7401
Facsimile: +61 (02) 8964 7588
Email: bill.ketelbey@actinogen.com.au
Twitter: @billketelbey



Thank you and
questions

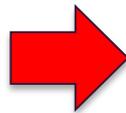


Appendix

A boom in brain medicine



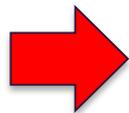
- People are living longer and healthier lives due to innovations in preventing and treating cardiovascular disease, cancer and infectious disease. Now the focus is on the brain and brain medicines.
- Last year investors poured **US\$3.3 billion** into firms developing drugs for brain-destroying or psychiatric illnesses, more than in any of the last ten years.
- 50 million people around the world who have these diseases, costing **US\$650 billion** a year. Most families will be affected.

 Alzheimer's dementia is at the forefront – it's a core part of investment thesis behind the boom in brain medicine

Alzheimer's at the forefront of the boom



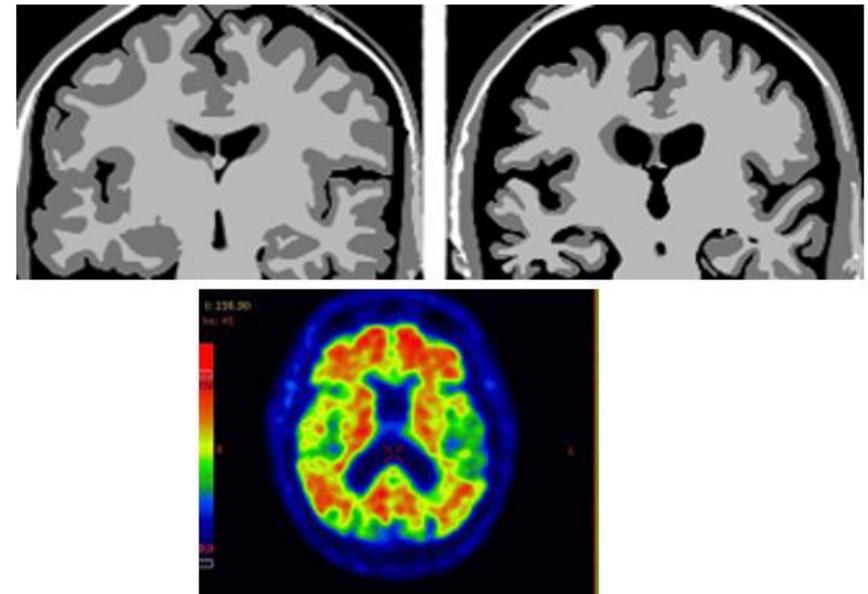
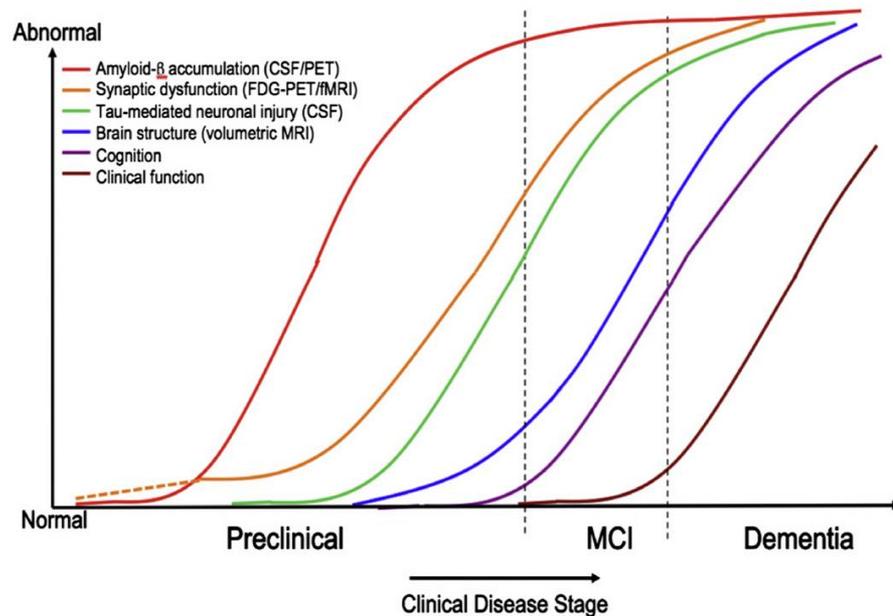
- Alzheimer's represents the biggest market potential – by 2050 Alzheimer's will cost **\$1tn** annually in the US alone.
- The pharmaceutical industry bet big on injectable medicines to prevent or reverse Alzheimer's by attacking the build-up of amyloid plaques in the brain – and failed.
- **Long term:** Drug companies won't give up on the plaque approach. Biogen presented positive data for its phase I plaque-buster in March 2015; Eli Lilly is releasing results of a big retrial of a failed drug next year; Roche is testing a plaque-buster in patients with a gene that causes Alzheimer's before age 40. Merck, J&J and others are testing plaque-clearing pills.

 Xanamem™ is not competitive to other Alzheimer's treatments. It's unique mechanism of action around cortisol inhibition means it could likely be used in combination with other Alzheimer's drugs.

Major advances in understanding and diagnosing Alzheimer's



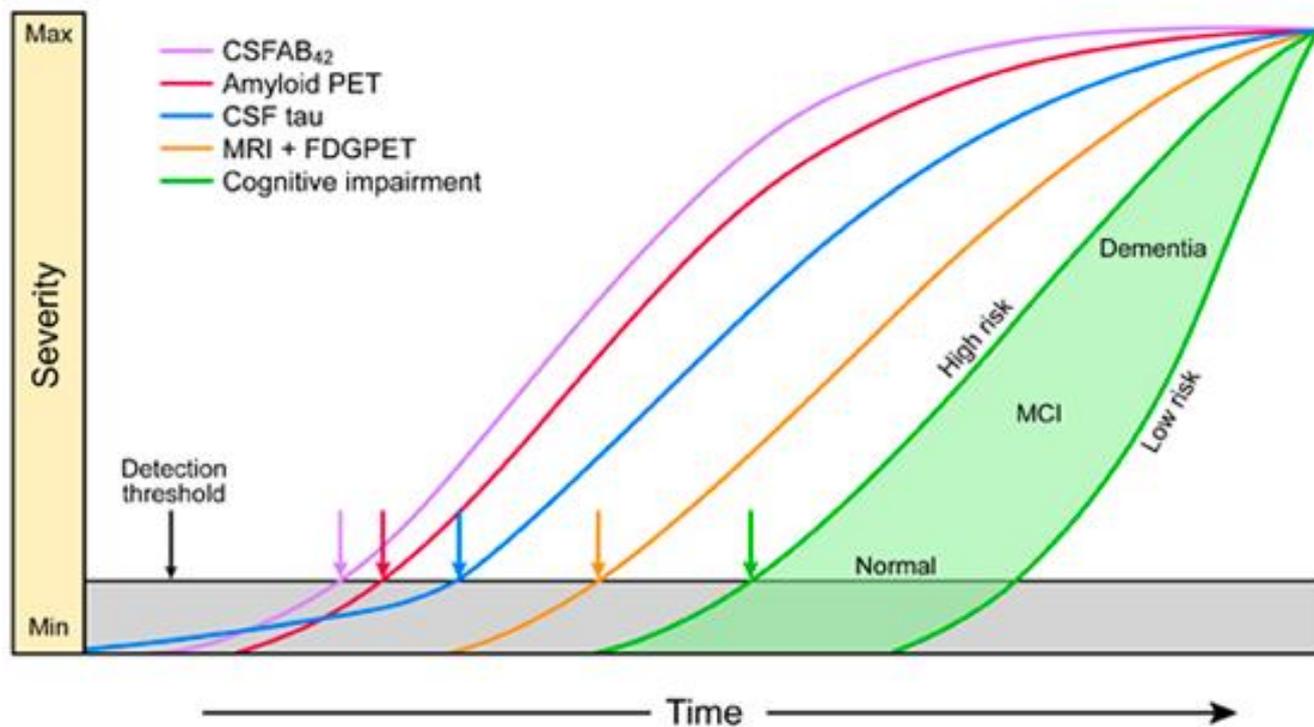
- Understanding the life course of the disease
- Understanding of the pathology of the disease and how best to impact it
- Brain imaging technology



Major advances in understanding and diagnosing Alzheimer's



- Our ability to detect, diagnose and treat the condition much earlier



Significant Market interest in Alzheimer's peer companies



- **Avanir Pharmaceuticals (NASDAQ:AVNR)**
 - Jan 2015: US\$3.5bn buy-out by Otsuka Pharma following positive Phase II data on AVP-923 for symptomatic treatment of behavioural symptoms in Alzheimer's patients. Avanir stock trades in a 52-week range of \$2.62 to \$15.34.
- **Biogen (NASDAQ:BIIB)**
 - March 2015: Aducanumab Phase I results show reductions in amyloid plaques in the brain and a significant slowing of cognitive decline in Alzheimer's patients. Results generate a US\$40bn growth in market cap over 3 months.
- **Axovant Sciences (NYSE:AXON)**
 - June 2015: US\$1.5bn IPO following the acquisition of RVT-101 (for Alzheimer's disease) from GSK(purchased \$5m) and a capital raising of US\$315m. Largest ever IPO for a pre-revenue biotech start-up. IPO priced doubled on listing to US\$3bn
- **Prana (ASX:PBT)**
 - April 2014: Market cap growth from A\$80m to A\$650m over 2 years in anticipation of their Phase II results on PBT2 in Alzheimer's disease