

**27 August 2014**

The Manager  
Company Announcements Office  
ASX Limited  
Level 6, 20 Bridge Street  
SYDNEY NSW 2000

## **Actinogen Limited to acquire Corticrine Limited**

**27 August 2014** - The Board of Actinogen Ltd, an Australian biotechnology company, is pleased to announce that the Company has signed a sale and purchase agreement to acquire 100% of Corticrine Ltd, a pharmaceutical company focused on the development of new therapies for Alzheimer's dementia. This transaction will transform Actinogen into a clinical stage company with an asset that has the potential to become the long awaited treatment for Alzheimer's dementia, a multi-billion dollar market.

### **Highlights**

- Corticrine is a mid-stage pharmaceutical R&D company focused on the development of novel treatments for disease modification and prevention in Alzheimer's dementia. It is a spin-out company from Edinburgh BioQuarter, the commercialisation arm of the College of Medicine and Veterinary Medicine of the University of Edinburgh in the United Kingdom.
- Corticrine has licensed worldwide development and commercialisation rights from the University of Edinburgh to UE2343 which is in clinical development for Alzheimer's disease.
- With significant support from the Seeding Drug Discovery program of the Wellcome Trust, the University of Edinburgh has successfully completed a Phase 1 single ascending dose (SAD) study of UE2343 in healthy human volunteers. UE2343 was well tolerated in humans with no serious adverse events.
- According to the World Health Organization 18M people affected globally with Alzheimer's with 5.1M in the US alone. The market could possibly surpass \$20B USD with the approval of the new drug.
- New management team and advisory board are in place and ready to take the project forward. Near term value inflection point – a Phase 1b multiple ascending dose study and Phase 2a proof-of-concept study in patients with mild cognitive impairment.
- Capital raising of \$2M to accompany the acquisition resulting in available working capital of approximately \$3M.

### **Overview of the Transaction**

Subject to shareholder approval, Actinogen will:

- Issue 125,000,000 new ACW fully paid ordinary shares.
- Raise an additional \$2M via the placement of 100M shares at \$0.02. The placement will be managed by Perth based, Forrest Capital. 50 million shares of the placement will be issued immediately, without shareholder approval, using the Company's share issue capacity under ASX Listing Rule 7.1 and 7.1 A, with the balance subject to shareholder approval at a meeting of shareholders in October 2014.

Following the acquisition the University of Edinburgh will become a substantial shareholder (~11%) of the Actinogen.

A Notice of Meeting will be mailed to all shareholders as soon as available.

-end-

Dr Brendan de Kauwe  
Executive Chairman  
Actinogen Limited

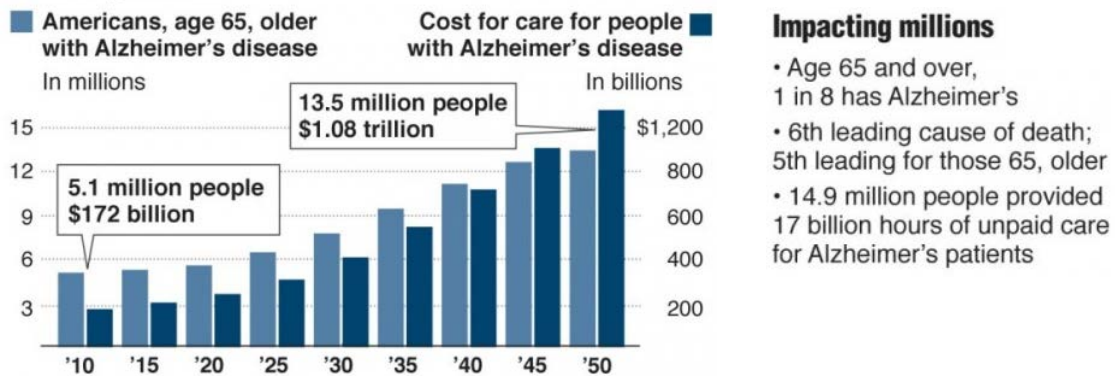
**About Actinogen Limited**  
Actinogen Limited (ASX: ACW)

Actinogen is a clinical stage Australian biotechnology company focused on the development of novel treatments for Alzheimer's Disease (AD) and other major age-related neurodegenerative disorders. Actinogen's lead candidate UE2343 is a small molecule inhibitor of 11-beta-hydroxysteroid dehydrogenase (11 $\beta$ -HSD1) an enzyme that reduces cortisone to the active hormone cortisol that activates glucocorticoid receptors. There is evidence for a role of glucocorticoids and hypothalamus-pituitary-adrenal axis dysfunction in AD that includes both cortisol-induced neurotoxicity on the hippocampal formation and acute ongoing impairment of cognition. UE2343 was discovered in 2007 at the laboratory of Professor Brian Walker at the University of Edinburgh. Subsequently, the University received significant support from the Wellcome Trust's Seeding Drug Discovery program to advance UE2343 into early clinical development.

In addition, the company has an early stage drug discovery program focused on developing drugs to treat brain cancer and potentially other oncological diseases by the targeted killing of cancer stem cells (CSCs). The first study was conducted in collaboration with Curtin University and the results demonstrated substantial reduction of proliferation in CSCs populations in glioblastoma cell lines.

## Appendix

### About Alzheimer's Dementia



**Figure 1.** US represent largest opportunity in Alzheimer's. Current facts and figures.

Alzheimer's disease (AD) is a chronic neurodegenerative condition with onset around 60 years of age resulting in progressive cognitive impairments affecting memory, reason, judgment, language and, eventually, the ability to carry out even the simplest of tasks. The condition is the most common form of dementia and is associated with both amyloid plaques and neurofibrillary tangles in the brain.

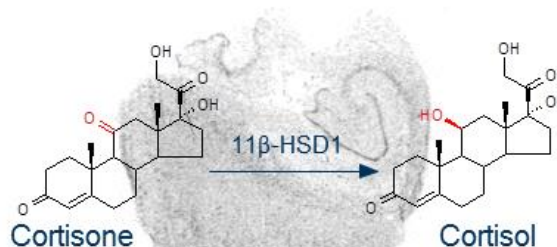
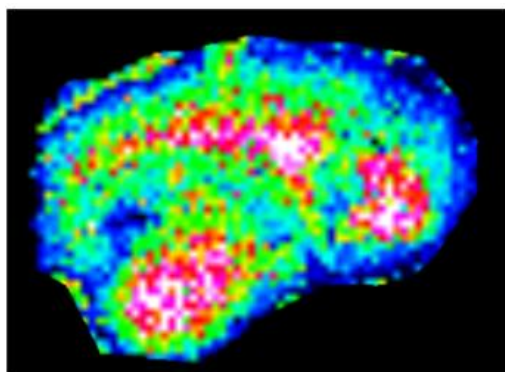
The World Health Organization (WHO) estimates that currently over 18 million people world-wide suffer with AD, a figure projected to double by 2025.

Today, someone in America develops AD every 68 seconds. By 2050, there is expected to be one new case of AD every 33 seconds. This astonishing statistic has become a reality for the 5.1 million Americans that currently live with this neurological disease. United States represent the largest market opportunity for Alzheimer's and Dementia.

There are more than 332,000 Australians living with dementia. The disease is becoming the most recognized burden on the society. As part of the new Budget Australian Government committed \$200 million over five years - which includes \$40 million in 2018-19 - to boost research to improve the treatment of dementia in Australia.

A number of treatment options are currently available for AD that offer some symptomatic improvement. The most common classes of drugs for AD include: acetyl cholinesterase inhibitors such as Aricept (donepezil), and the N-methyl-D-aspartate glutamate receptor antagonist Namenda (memantine). AD continues to remain a key area of R&D focus for the pharmaceutical industry and a number of therapies targeting the amyloid cascade are in late stage clinical trials as well as active and passive immunotherapeutic agents, beta and gamma secretase inhibitors and amyloid aggregation inhibitors.

## About Corticrine's Lead Compound – UE2343



**Figure 2.** UE2343 penetration into brain, by mass spectrometry tissue imaging. 11 $\beta$ -HSD1 expression and function in the brain. 11 $\beta$ -HSD1 in brain is inversely associated with cognitive decline.

UE2343 is a patented novel inhibitor of 11 $\beta$ -HSD1 – a novel target for Alzheimer's disease. 11 $\beta$ -HSD1 amplifies glucocorticoid action in the hippocampus and is up-regulated in age-associated memory impairment. Pre-clinical and clinical work on UE2343 was supported by The Wellcome Trust and the Medical Research Council (MRC). The drug development program in Edinburgh is supported by a Seeding Drug Discovery award from The Wellcome Trust.

To date, UE2343 and its analogs has completed safety pharmacology, 28-day toxicology pre-clinical studies, 3-month toxicology pre-clinical studies, and a Phase 1a single ascending dose (SAD) study in healthy human volunteers. The drug is well tolerated in humans with no serious adverse events, has potent effects on pharmacodynamics biomarkers consistent with substantial inhibition of 11 $\beta$ -HSD1 for at least 24 hours after single doses, and displays exposure in line with twice daily oral dosing. Pre-clinical studies in disease models indicate both symptomatic (cognitive testing) and disease-modifying (plaque burden reduction) efficacy in dementia.

UE2343 has potential advantages as a drug for Alzheimer's disease, including: high penetration into brain; low toxicity at therapeutic doses; potential for disease modification (reduction in amyloid plaque burden in pre-clinical studies); symptomatic effects that are independent of any disease-modifying effect; as well as an added potential for metabolic and cardiovascular risk factor reduction.

The next steps for clinical development of UE2343 can begin immediately, and include:

- undertaking a multiple ascending dose (MAD) Phase 1b study in healthy humans (for which MHRA approval has been obtained);
- completing a second 3-month toxicology pre-clinical study;
- consolidating the pre-clinical data package to establish the mechanism of disease modification to compare with competitor compounds; and
- progressing to a phase 2a proof-of-concept study in patients with mild cognitive impairment.