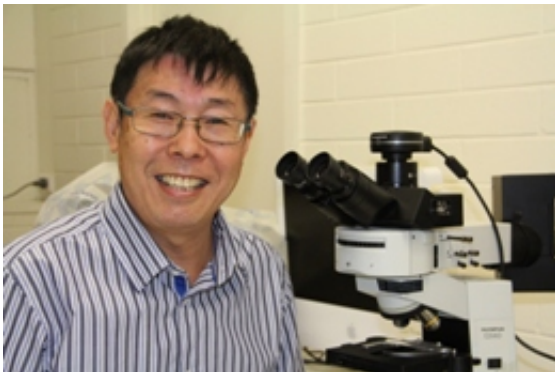


Research partnership finds new Alzheimer's hope

April 8 2015, by Kelly Stone



A drug discovery by Adelaide and Chinese scientists could hold promise in the fight against the devastating effects of Alzheimer's Disease.

Scientists from the University of South Australia, along with colleagues from Third Military Medical University in Chongqing, China, have discovered the drug Edaravone can alleviate the progressive cognitive deficits of Alzheimer's Disease, a major social and economic burden worldwide.

The discovery has been published today in one of the world's most cited multidisciplinary scientific journals, *PNAS (Proceedings of the National Academy of Sciences of the United States of America)*.

Edaravone is currently available only in some Asian countries for the treatment of ischemic stroke – the most common type of stroke which is caused by blood clots.

Lead researcher Professor Xin-Fu Zhou, who is UniSA's Research Chair in Neurosciences, says Edaravone can alleviate Alzheimer's Disease pathologies and improve functions of learning and memory – in a mouse model of the disease – by multiple mechanisms.

"Edaravone can bind the toxic amyloid peptide which is a major factor leading to degeneration of nerve cells," Prof Zhou says.

Prof Zhou says lessons from failures of current clinical trials suggest that targeting multiple key pathways of the Alzheimer's Disease pathogenesis is necessary to halt the disease progression.

"Edaravone can suppress the toxic functions of [amyloid beta](#) to nerve cells – it is a free radical scavenger which suppresses oxidative stress that is a main cause of brain degeneration," he says.

"The drug can suppress the production of amyloid beta by inhibiting the amyloid beta production enzyme. It also inhibits the Tau hyperphosphorylation which can generate tangles accumulated in the brain cells and disrupt brain functions."

The research is a collaboration between Prof Zhou's lab within UniSA's Sansom Institute for Health Research and School of Pharmacy and Medical Sciences, and labs led by Prof Yanjiang Wang in Chongqing, China.

The researchers stress Edaravone should not be used for Alzheimer's patients before appropriate [clinical trials](#) are undertaken. Prof Zhou is seeking investment and partnership opportunities to further the research.

More information: "Edaravone alleviates Alzheimer's disease-type pathologies and cognitive deficits." *Proceedings of the National Academy of Sciences*, 201422998. [DOI: 10.1073/pnas.1422998112](https://doi.org/10.1073/pnas.1422998112)

Provided by University of South Australia

Citation: Research partnership finds new Alzheimer's hope (2015, April 8) retrieved 10 April 2024 from <https://medicalxpress.com/news/2015-04-partnership-alzheimer.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--