# Prana's PBT2 Directly Restores Neurons Critical to Cognition

## *Important Further Demonstration of Mechanism of Action*

*Journal of Neurochemistry publication on biochemical effects of PBT2 explains the preclinical and clinical benefits of PBT2 in Alzheimer's Disease*

**Melbourne – 19 September, 2011: Prana Biotechnology (NASDAQ:PRAN; ASX:PBT)** today announced that The Journal Of Neurochemistry has published an update on the mechanism of action of PBT2 in the treatment of Alzheimer's Disease (AD). The study explains how PBT2 is able to restore cognition in AD sufferers through repair of affected Alzheimer's brains.

The findings further explain the rapid improvement in cognition previously reported in transgenic Alzheimer's mice and in patients in a Phase IIa clinical trial with PBT2*.

The article published in the peer-reviewed Journal of Neurochemistry** is entitled "*The Alzheimer's therapeutic PBT2 promotes amyloid-B degradation and GSK phosphorylation via a metal chaperone activity*".

"The data published adds significantly to the information published in PLoS ONE and announced on 21 March 2011. The March article described *what* PBT2 does in the brain – it directly restores neurons. This new article details *how* the mechanism of action works and brings cognitive improvement" commented Mr. Geoffrey Kempler, Prana's Executive Chairman.

The study findings are particularly timely as Prana is about to start two clinical studies, one in AD and one in Huntington's Disease.

According to Prana's Head of Research, Associate Professor Robert Cherny, PBT2 provides a unique combination of detoxification and neuronal restoration to bring about the cognitive improvement observed in patients. It prevents Abeta oligomer formation, and delivers neurologically active metals (copper and zinc) into neurons damaged in AD.

This new data shows that delivery of these metals triggers intracellular molecular pathways which lead to improved cognition and increased expression of neuronal markers.

"Our findings indicate that PBT2 causes phosphorylation of the key cellular kinase, GSK3 by inhibiting the activity of the phosphatase, calcineurin, and refine our understanding of the mechanism of action of PBT2. Both GSK3 and calcineurin are viewed as important targets for AD therapies," Dr. Cherny stated.

Activation of this pathway also explains how PBT2 caused the large decrease in hyperphosphorylated tau, a brain protein associated with AD. ***

These new results further explain how PBT2 can achieve rapid improvements in cognition: by liberation of copper and zinc trapped in amyloid deposits and returning those essential metals to neurons, where they are needed for normal function.

*Lannfelt *et al.* Lancet Neurology (2008) vol. 7, pp. 779-86; Lannfelt *et al.* Lancet Neurology (2009) vol. 8, pp. 981.
**Crouch *et al.* Journal of Neurochemistry (2011) vol. 119, pp.220-230
***Adlard *et al.* Neuron (2008) vol. 59, pp. 43-55

**About Prana Biotechnology Limited**
Prana Biotechnology was established to commercialize research into age-related neurodegenerative disorders. The Company was incorporated in 1997 and listed on the Australian Securities Exchange in March 2000 and listed on NASDAQ in September 2002. Researchers at prominent international institutions including The University of Melbourne, The Mental Health Research Institute (Melbourne) and Massachusetts General Hospital, a teaching hospital of Harvard Medical School, contributed to the discovery of Prana's technology.

For further information please visit the Company's web site at www.pranabio.com.

**Forward Looking Statements**

*This press release contains "forward-looking statements" within the meaning of section 27A of the Securities Act of 1933 and section 21E of the Securities Exchange Act of 1934. The Company has tried to identify such forward-looking statements by use of such words as "expects," "intends," "hopes," "anticipates," "believes," "could," "may," "evidences" and "estimates," and other similar expressions, but these words are not the exclusive means of identifying such statements. Such statements include, but are not limited to any statements relating to the Company's drug development program, including, but not limited to the initiation, progress and outcomes of clinical trials of the Company's drug development program, including, but not limited to, PBT2, and any other statements that are not historical facts. Such statements involve risks and uncertainties, including, but not limited to, those risks and uncertainties relating to the difficulties or delays in financing, development, testing, regulatory approval, production and marketing of the Company's drug components, including, but not limited to, PBT2, the ability of the Company to procure additional future sources of financing, unexpected adverse side effects or inadequate therapeutic efficacy of the Company's drug compounds, including, but not limited to, PBT2, that could slow or prevent products coming to market, the uncertainty of patent protection for the Company's intellectual property or trade secrets, including, but not limited to, the intellectual property relating to PBT2, and other risks detailed from time to time in the filings the Company makes with Securities and Exchange Commission including its annual reports on Form 20-F and its reports on Form 6-K. Such statements are based on management's current expectations, but actual results may differ materially due to various factions including those risks and uncertainties mentioned or referred to in this press release. Accordingly, you should not rely on those forward-looking statements as a prediction of actual future results.*

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