



ASX Announcement



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## Neuren and Metabolic report promising animal efficacy data in collaborative project

- ***New compound shows strong effects in rat model of nerve damage***
- ***Neuren and Metabolic to initiate formal preclinical development this year***

Neuren Pharmaceuticals (ASX: NEU) and Metabolic Pharmaceuticals (ASX: MBP) are pleased to announce that they have obtained promising results in an animal model designed to test the ability of the Neural Regeneration Peptide (NRP), NNZ-4921, to prevent or reverse peripheral neuropathy (nerve damage). The effectiveness of NNZ-4921 when given at a low dose, once per day, positively indicated that the compound has good potential as a neuro-therapeutic drug.

Peripheral neuropathy is a relatively common and disabling condition characterised by nerve damage due to diseases such as diabetes, or as a result of other treatments, such as chemotherapy. In the US alone peripheral neuropathy affects as many as 2.5 million people and results in more than US\$11 billion in health care costs. Currently the approved drugs for the treatment of peripheral neuropathy, which have combined sales in excess of US\$2 billion per year, provide only symptomatic relief for pain and do not treat or prevent the underlying disease process.

NRPs are a class of small peptides that display a range of biological effects important for the protection and regeneration of nervous system tissue. The results reported here support the substantial body of *in vitro* data, indicating that NRP compounds are potent neuroprotective and neuroproliferative agents.

In the study, NNZ-4921-treated animals showed considerably improved performance in several tests of movement and responsivity, compared to controls, and displayed a significant reduction in the loss of body weight that typically results from the induced neuropathic condition.

Efficacy in a neuropathy model of this kind is indicative of the therapeutic potential for this novel class of drug. Further studies will determine the best market for NRPs, with potential indications including chemotherapy-induced neuropathies, HIV-induced neuropathy, diabetic neuropathy, or other similar conditions.

The next steps, in preparation for human testing, will be to conduct further studies to characterise the compound. Once these issues have been addressed, the obligatory formal preclinical safety and toxicity program will be initiated. The companies intend to move the drug forward towards the clinic as soon as possible. Development costs are being shared between the two companies.

“These results are an important stage in assessing the viability of the compound as a neuroactive drug. The next steps during 2006 will also produce the data needed to determine which of the large neuro-therapeutic markets we will then be targeting for the compound’s application,” said Mr David Clarke, Chief Executive Officer of Neuren.

Dr Roland Scollay, Chief Executive Officer of Metabolic, said that the addition of the NRPs to the clinical projects of both Neuren and Metabolic would add substantially to their already strong pipelines, adding significant value to both companies. “This project with Neuren has been very productive and we are delighted with the outcome so far”, Dr Scollay said.

Neuren and Metabolic agreed to jointly develop the NRPs project in March 2005 with all intellectual property and commercial outcomes to be equally shared.

## **Results Detail**

In the study, twenty rats were given high doses of vitamin B6 (pyridoxine) twice per day for 8 days to induce peripheral neuropathy (sensory nerve damage). NNZ-4921 was administered by intraperitoneal injection at a dose of 4 micrograms per kg body weight to half of the rats once per day in parallel with the pyridoxine and for two days thereafter (for a total of 10 days). Both groups of rats (those that received NRP and controls that did not) were weighed each day and assessed for impairment of motor skills at various time points after treatment with pyridoxine.

A significant effect of the NRP NNZ-4921 on four outcomes in the rat peripheral neuropathy model is shown below. NRP-treated rats showed less weight loss as a result of the neurotoxicity, and performed better in three tests of motor impairment and hyper-responsiveness.

| <b>Treatment, in addition to pyridoxine</b> | <b>Body Weight Loss (Day 10)</b> | <b>Percent Competent to Walk on Test Beam (Day 13)</b> | <b>Limb Weakness (average severity score – Day 13)</b> | <b>Limb Hyper-Responsiveness (average severity score – Day 13)</b> |
|---|----------------------------------|--|--|--|
| <b>Control</b>                              | 9.6 %                            | 0 %  | 1.44   | 2.56   |
| <b>NNZ-4921</b>                             | 3.7 %                            | 60 %   | 0.60   | 1.10   |
| <b>Statistical Significance</b>             | P < 0.01                         | P < 0.01   | P < 0.001  | P < 0.01   |

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**About Neuren Pharmaceuticals**

Neuren Pharmaceuticals (**ASX: NEU**) is a biotechnology company developing novel therapeutics in the fields of neurotherapy and metabolic disorders. The Neuren portfolio consists of six product families, targeting markets with large unmet needs and limited competition. Neuren has two lead candidates, Glypromate® and NNZ-2566, targeting a range of acute and chronic neurological conditions. Neuren has commercial and development partnerships, including Pfizer, the US Army's Walter Reed Army Institute of Research and Metabolic Pharmaceuticals.

For more information, please visit Neuren's website at [www.neurenpharma.com](http://www.neurenpharma.com)

**About Metabolic Pharmaceuticals**

Metabolic Pharmaceuticals Limited (**ASX: MBP, OTC: MBPLY**) is an ASX listed biotechnology company based in Melbourne, Australia with 254 million shares on issue. The Company employs 23 staff and is led by an experienced and proven management team. The Company's mission is to bring to the market innovative drugs which will improve people's lives and return value to stakeholders.

Metabolic has two high-value, innovative drugs in late-stage human clinical development and several exciting drugs in the research pipeline. Both its clinical stage drugs, for obesity and neuropathic pain, address multi-billion dollar markets which are poorly served by existing drugs. Metabolic commenced a Phase 2B human clinical trial of its obesity drug (AOD9604) in October 2005, and plans to commence a Phase 2A human clinical trial of its pain drug (ACV1) in Q206. Metabolic also has discovery programs targeting type 2 diabetes, osteoporosis and a collaboration agreement with Neuren Pharmaceuticals Limited (**ASX:NEU**) in the field of nerve protection and regeneration. For more information, please visit the company's website at [www.metabolic.com.au](http://www.metabolic.com.au).

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