Neuren to obtain late stage compound through Hamilton Pharmaceuticals acquisition

~ Two leading life science VCs to invest US$3m in Neuren ~

Key Points:

- **Acquisition of a compound - Motiva™ - with successful safety and Phase II efficacy data in human clinical trials**
- **US Investigational New Drug ("IND") application currently active**
- **Strengthens Neuren's position as key player in the CNS field**
- **Two leading life science VCs to invest US$3 million in Neuren**
- **Neuren will have one Phase III and three Phase II studies in 2008, with results expected in early 2009**

Tuesday, 31 July 2007: Neuren Pharmaceuticals (ASX: NEU) today announced that it will acquire Hamilton Pharmaceuticals ("Hamilton") in a transaction that will provide Neuren a late stage compound with proven human efficacy and add three leading life science investors as shareholders in Neuren. The acquisition represents a major milestone for Neuren and will position the Company as a key player in the central nervous system ("CNS") field, specialising in cognitive and psychological effects of CNS injury.

Under the binding term sheet, the acquisition is to be implemented using Neuren scrip only, with no cash payment to be made by Neuren. Neuren will acquire 100% of Hamilton, whose principal asset is Motiva™, in exchange for US$4.4 million in Neuren ordinary shares at the average closing share price for the last five trading days (the "Purchase Share Price") prior to today's announcement. Two Hamilton investors, Vivo Ventures and CNF Investments, will also invest US$3 million into Neuren.

In addition, contingent Motiva™ related milestones to Hamilton are as follows:

- Successful completion of Phase II - US$0.5 million in warrants to purchase Neuren ordinary shares at the Purchase Share Price
- Initiation of a Phase III pivotal study - US$0.5 million in warrants to purchase Neuren ordinary shares at the Purchase Share Price
- First filing of a New Drug Application ("NDA") or equivalent - US$1 million of Neuren ordinary shares at the then market share price when the milestone is reached
- First approval of NDA or equivalent - US$2 million of Neuren ordinary shares at the then market share price when the milestone is reached

The three major venture capital investors from Hamilton, Vivo Ventures of Palo Alto, California, CNF Investments of Bethesda, Maryland and Index Ventures of Geneva, Switzerland, will become shareholders in Neuren through the transaction. These companies are leading life sciences investors with funds of more than US$2 billion under combined management. The managers of these funds have a strong focus and experience in CNS drug development.

Upon the closing, Vivo Ventures and CNF Investments will invest US$3 million in Neuren by way of a convertible note which will convert to ordinary shares on the same terms provided to investors in the next major fundraising.

Hamilton shareholders have unanimously approved the acquisition, and Neuren will seek approval from its own shareholders prior to completion of the transaction. The definitive legal agreement is being prepared. Ongoing operating costs for Hamilton are negligible and Neuren will not be retaining any Hamilton management.

Through the acquisition, Neuren will obtain a Phase IIb compound - Motiva™ - which is being developed for psychological and cognitive disorders resulting from stroke, traumatic brain injury, Alzheimer's and Parkinson's disease. The compound already has proven human safety and efficacy in 1,700 patients. Exclusive rights to develop and commercialise Motiva™ intellectual property in the US and EU were licensed by Hamilton from Daiichi Pharmaceutical Company in 2004.

Motiva's™ mode of action increases neurotransmitter concentrations in the cortex of the brain. The drug has clinical efficacy signals in post-stroke depression (see appendix for details). This class of compounds, called acetams, includes approved drugs with sales in excess of US$700 million in the first half of 2007, including levetiracetam (Keppra®, UCB Pharma) and piracetam (Nootropil®, UCB Pharma). Motiva™ is protected by more than 40 issued patents, three of which have issued in the US. The broad range of activity associated with increased concentrations of cortical neurotransmitters has potential applicability to a number of CNS indications.

Motiva™ has been studied in two randomized clinical trials (RCT) which showed clinically and statistically significant efficacy of the drug. In 2006, a third trial in post-stroke patients was suspended due to poor Contract Research Organisation ("CRO") execution. Motiva's™ approved IND application from the US Food and Drug Administration remains open and there are sufficient quantities of Motiva™ available to complete a Phase II trial.

Neuren intends to conduct a larger Phase II trial of Motiva™ with a broader range of endpoints and tighter patient attributes in 2008. Neuren will thereby be conducting one Phase III trial and three Phase II trials in 2008, all focusing on cognitive and psychological effects of acute CNS injury, with results expected by early 2009.

Commenting on the pending acquisition, David Clarke, Neuren's CEO and Managing Director, said: "This is a major step forward in Neuren's strategic development. It adds an extremely promising compound to our portfolio and, at the same time, significant representation and commitment by world class life sciences investors. This transaction confirms Neuren's intent to be a significant player in the CNS sector of the global biotechnology industry."

Mr. Robert Flanagan, a managing partner of CNF Investments and Board Member of Hamilton Pharmaceuticals, said: "We are pleased to be forming this relationship with Neuren. Neuren clearly brings the capabilities and commitment not only to develop Motiva™ but also to maximise the value of their promising pipeline. We look forward to a productive and exciting association."

Appendix:

Motiva™

Motiva™ (nefiracetam) is a novel cyclic GABA derivative with a chemical name of N-(2,6-dimethylphenyl)-2-(2-oxo-1-pyrrolidinyl) acetamide. Motiva™ differs from other acetams by the addition of a substituted benzene ring, its pharmacologic profile and its behavioral effects in animal models.

Mechanism of Action
As a result of Gi/Go inhibition, N and L type voltage-gated calcium channels and components of the adenylate cyclase cascade become activated. Multiple pre-clinical studies have shown that Motiva™ induces substantial increases in cortical neurotransmitters, most notably acetylcholine and dopamine.

Animal Model Activity
Motiva™ significantly improves performance in several animal models of motivated, interactive and cognitive behavior. These include the forced swimming test, water maze test, T-maze test for food reward, and the social interaction test. Active doses are in the range of 3 to 30mg/kg. In the same dose range, Motiva™ has been shown to restore the regional glucose utilisation reductions that occur in rodent cerebral cortex following unilateral infarction.

Preclinical Toxicology
Motiva™ has been exhaustively evaluated in *in vitro* and *in vivo* toxicological studies. NOAELs were established in the 100 to 480mg/kg range in 13 week GLP rat, dog and monkey studies. Twelve month GLP evaluations in these three species identified testes and kidneys as target organs. Transient effects on activity (CNS depression) were demonstrated at high doses in acute and subchronic toxicity tests. There were no significant findings in long-term, high-dose DART, carcinogenicity and mutagenicity studies.

Clinical Safety Data
Motiva™ has been studied in over 1,700 subjects in Phase I, IIa and IIb trials conducted in the US, Japan and China.

Motiva™ was evaluated in six Phase I studies (two in the US), with 140 subjects with single doses (up to 1200mg per day) and multiple doses (up to 900mg per day). Pharmacokinetic findings showed excellent oral bioavailability, absorption unaffected by food, primary clearance by metabolism, inactive metabolites, and a half-life of 6.5 hours. Motiva™, at daily doses up to 1200mg and durations exceeding 6 months, has been found to be safe and well tolerated in all clinical studies conducted to date. A total of 100 individuals have received Motiva™ at 900mg a day or above. In most studies, the frequency and type of adverse effects in placebo and drug tested patients were indistinguishable. For example, in a placebo population (N=130), adverse effects were found in 4% of the patients, compared to a Motiva™ population (N>100) where adverse effects occurred in 5%. No laboratory evidence of cardiovascular or organ toxicity has been identified.

Clinical Efficacy Data
Multiple trials have been conducted in North America and Japan by Daiichi Pharmaceuticals.

First RCT Motiva™ Trial (Daiichi)
The first randomised controlled clinical trial to evaluate Motiva™'s efficacy in treating abulia or apathy, a dysmotivational syndrome closely associated with post-stroke depression, was conducted in post-stroke patients suffering from moderate to severe psychiatric symptoms. Two parallel groups of 120 patients each received either placebo or Motiva™ 150mg tid for 8

weeks. Response to treatment was rated on a scale of 0 to 4 at weeks 4 and 8. Primary analysis of the results from all patients studied revealed significant improvement with Motiva™ compared to placebo in the scale used to evaluate apathy or abulia, which was a Japanese scale that translated as “reduced spontaneity”. Results of the activities of daily living (“ADL”) scale also tended to improve (3 fold higher) on primary analysis of all patient data, but especially in those with recent stroke (within 3 months) who evidenced a clinically and statistically significant degree of benefit.

Second RCT Motiva™ Trial (Daiichi)
A second randomised controlled trial (Phase IIa) of Motiva™ was conducted in 135 patients who were suffering from post-stroke depression, with treatment initiated between 10 days to 3 months post-stroke. Three parallel groups received either placebo or Motiva™ at 600 or 900mg/day for 12 weeks. Primary analysis showed a time- and dose-dependent trend towards improvement in apathy. Data were subjected to secondary analysis which showed patients with cortical lesions demonstrating the largest benefit. These analyses demonstrated a statistically and clinically significant improvement.

In addition, the Functional Independence Measure (“FIM”), an endpoint measuring the activities of daily living, and a standard assessment of frontal lobe cognitive function, the Symbol Digit Modalities Test (“SDMT”), both improved significantly in a time- and dose-dependent fashion. These are well-recognised and accepted FDA endpoints.

Importantly, the data also showed a substantial improvement in relevant functional measures. Positive changes in FIM score indicate patient improvement in the activities of daily living, while positive changes in SDMT indicate improved frontal lobe cognitive function.

Based on the robustness of the pre-clinical and clinical data demonstrating Motiva’s™ efficacy in the treatment of apathy, Hamilton licensed the Motiva™-related intellectual property from Daiichi in order to conduct additional trials designed to replicate the results seen in the US Phase IIa trials. Hamilton met with the FDA in April 2005 in an end of Phase I/II meeting to discuss clinical and regulatory plans. Based upon positive feedback and guidance from the FDA, Hamilton subsequently initiated a limited Phase IIb feasibility study in November 2005. After disappointing execution of the trial by the CRO, the company stopped the trial in early 2006. No drug-related adverse safety or toxicity findings occurred in any of the treated patients.

Intellectual Property
Motiva™ is protected by a broad portfolio of more than 40 issued patents worldwide surrounding the use of nefiracetam, including issued US patents with coverage extending beyond 2019. The US patent portfolio includes:

- 11/406,158 (Pending) – Method of Treating Apathy (provisional 60/673,555 filed in 2005)
- 6,399,650 – Method for Improving Disturbancies of Activities of Daily Living After Stroke
- 10/487,320 – Use of Nefiracetam for treating Neurodegeneration
- 6,423,739 – Method of Aiding Cerebral Recovery Following Neurodegeneration
- 5,886,023 – Agent for Improving Dementia
- 10/450,524 (Pending) – Agent for Therapeutic and Prophylactic Treatment of Neuropathic Pain

About Vivo Ventures

Vivo Ventures (Palo Alto, California) is a life-sciences focused venture capital firm formed in 1996 with over US$650 million under management. Vivo Ventures recently closed the Vivo Ventures Fund VI, a US$275 million Life Science Venture Fund. With over 90 years of scientific and operational expertise in biotechnology, Vivo makes investment decisions for the Funds and helps its portfolio companies develop corporate strategy, arrange licensing agreements and strategic alliances, recruit key management personnel, and acquire new products and technology to accelerate growth. Its current portfolio includes more than 60 private and public biotechnology companies in the areas of biopharmaceuticals, specialty pharmaceuticals, and medical devices.

About CNF Investments

Established in 1997, CNF Investments (Bethesda, Maryland) is an affiliate of Clark Enterprises, Inc. a diversified investment company headquartered in Bethesda, Maryland which is one of the largest privately held companies in the Washington, DC metropolitan area with holdings in real estate; commercial, heavy and residential construction; and venture capital, private equity and other investments. CNF Investments actively invests in venture capital and private equity. CNF Investments team members Robert Flanagan and Joseph Del Guercio manage over US$125 million in capital with current investments in pharmaceutical, biotechnology and medical device; communications; financial services; software / technology; oil and gas; and consumer products.

About Index Ventures

Index Ventures is a venture capital fund dedicated to helping top entrepreneurial teams build their companies into global leaders. Index proactively seeks out opportunities to invest in companies with products and services that drive the transformation of their industries. Managing US$1 billion in capital, the Index team has become a major player on the VC world stage with an unrivalled network in Europe, as well as in the US. The firm has offices in Geneva and London.

About Neuren Pharmaceuticals

Neuren Pharmaceuticals (ASX: NEU) is a biopharmaceutical company developing novel therapeutics in the fields of brain injury and diseases and metabolic disorders. The Neuren portfolio consists of six product families, targeting markets with large unmet needs and limited competition. Neuren has three lead candidates, Glypromate® and NNZ-2566, presently in clinical trials to treat a range of acute neurological conditions, and NNZ-2591 in preclinical development for Parkinson's and other chronic conditions. Neuren has commercial and development partnerships, including with the U.S. Army Walter Reed Army Institute of Research, Metabolic Pharmaceuticals, UCLA Medical Center and the National Trauma Research Institute in Melbourne.

For more information, please visit Neuren's website at www.neurenpharma.com

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