



**Newron announces results of Phase I study of NW-3509  
Phase II study in schizophrenia patients  
planned for Q2 2015**

**Milan, Italy, January 15, 2015** – Newron Pharmaceuticals S.p.A. (“Newron”), a research and development company focused on novel CNS and pain therapies, announced today the completion of the first in man US Phase I study of its novel sodium channel blocker NW-3509. This new chemical entity (NCE) is a product of Newron’s in-house ion-channel discovery program that also identified safinamide, a unique dual mechanism treatment that was recommended for approval by the CHMP in December 2014 as an add-on treatment for Parkinson’s disease (PD), and has been submitted for the same indication in the US.

NW-3509 is an orally available NCE that specifically targets voltage-gated sodium channels. It modulates sustained repetitive firing, without inducing impairment of normal neuronal excitability. NW-3509 normalizes glutamate release induced by aberrant sodium channel activity.

The Phase I study performed in 54 healthy subjects in six independent cohorts (nine subjects each) who received single doses of NW-3509 ranging from 1-30 mg, or placebo (2:1), was overseen by an Independent Safety Monitoring Board who reviewed all safety, tolerability and plasma level data at each dose level prior to recommending administration of higher doses.

NW-3509 was well-tolerated at all doses. At the maximum feasible dose of 30 mg, adverse events reported in the NW-3509 group (three subjects) included somnolence, headache, and orthostatic tachycardia, while one placebo subject complained of somnolence. In general, most events were transient, and were rated as mild in severity. No pattern of abnormal results was detected in vital signs, laboratory tests, or ECG results in NW-3509-treated subjects compared to placebo. Plasma concentrations of NW-3509 increased with higher doses; the mean C<sub>max</sub> at 20 mg and higher doses matched or exceeded the efficacious plasma concentrations in animal models of schizophrenia when NW-3509 was given as add-on therapy.

Newron plans to perform a double-blind, placebo-controlled randomized Phase II trial of NW-3509 as add-on treatment in schizophrenic patients on stable and adequate doses of atypical antipsychotics, whose symptoms are not effectively controlled by their medication. This 4-week study of the safety and preliminary evidence of efficacy of NW-3509 will be performed internationally and is expected to start in Q2 2015.

The potential benefits of NW-3509 have been demonstrated in extensive animal models predictive of efficacy in psychiatric diseases, including models of psychosis and schizophrenia, such as amphetamine-induced hyperactivity, sensorimotor gating and information processing deficits (pre-pulse inhibition impairment induced by different stimuli), mania and depression. Efficacy of NW-3509 has also been demonstrated in models of aggression and compulsive behavior, as well as in short- and long-term memory tests. Sub-threshold doses of NW-3509 increased the activity of inactive doses of both typical



and atypical antipsychotics in models of schizophrenia, psychosis and mania. Preclinical data indicate that NW-3509 may add to or synergize with antipsychotic drugs to produce a combined therapeutic effect by modulating glutamate and dopamine systems that have been associated with schizophrenia symptoms.

Ravi Anand, Newron's CMO, stated: "NW-3509 may improve efficacy of current antipsychotics, allowing a reduction of their dosage, and of associated side effects e.g., metabolic syndrome, tardive dyskinesia, extra-pyramidal side effects (EPS). Moreover, given its neuronal stabilization properties, NW-3509 may reduce relapses and prevent or treat episodes of psychosis due to established super-sensitivity psychosis (SSP) induced by antipsychotics. It may also benefit domains of symptoms such as cognition, mood disorders and suicidality that are currently not managed effectively by available treatments."

#### **About Newron Pharmaceuticals**

Newron (SIX: NWRN) is a biopharmaceutical company focused on the development of novel therapies for patients with diseases of the Central Nervous System (CNS) and pain. The Company is headquartered in Bresso near Milan, Italy. Following the submission of the Marketing Authorization Application (MAA) for safinamide for the treatment of Parkinson's disease to the European Medicines Agency (EMA) in December 2013, CHMP has recommended to approve safinamide in the EU on Dec. 19, 2014. An MAA has been submitted to Swissmedic in March, 2014, by Zambon. The New Drug Application NDA to the US FDA has been re-submitted by Newron on Dec. 26, 2014. Newron is working towards global approval of the compound, together with its partners. Zambon Group has the rights to commercialize safinamide globally, excluding Japan and other key Asian territories where Meiji Seika has the rights to develop and commercialize the compound. Newron's additional projects are based on highly promising treatments for rare disease patients and are at various stages of clinical development, including sarizotan for patients with Rett syndrome, sNN0031 for patients with Parkinson's disease, non-responsive to oral drug treatments, sNN0029 for patients with ALS and ralfinamide for patients with specific rare pain indications. Newron is also developing NW-3509 as the potential first add-on therapy for the treatment of patients with positive symptoms of schizophrenia. [www.newron.com](http://www.newron.com)

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(including staff costs), (2) the market for drugs to treat CNS diseases and pain conditions, (3) Newron's anticipated future revenues, capital expenditures and financial resources, and (4) assumptions underlying any such statements. In some cases these statements and assumptions can be identified by the fact that they use words such as "will", "anticipate", "estimate", "expect", "project", "intend", "plan", "believe", "target", and other words and terms of similar meaning. All statements, other than historical facts, contained herein regarding Newron's strategy, goals, plans, future financial position, projected revenues and costs and prospects are forward-looking statements. By their very nature, such statements and assumptions involve inherent risks and uncertainties, both general and specific, and risks exist that predictions, forecasts, projections and other outcomes described, assumed or implied therein will not be achieved. Future events and actual results could differ materially from those set out in, contemplated by or underlying the forward-looking statements due to a number of important factors. These factors include (without limitation) (1) uncertainties in the discovery, development or marketing of products, including without limitation negative results of clinical trials or research projects or unexpected side effects, (2) delay or inability in obtaining regulatory approvals or bringing products to market, (3) future market acceptance of products, (4) loss of or inability to obtain adequate protection for intellectual property rights, (5) inability to raise additional funds, (6) success of existing and entry into future collaborations and licensing agreements, (7) litigation, (8) loss of key executive or other employees, (9) adverse publicity and news coverage, and (10) competition, regulatory, legislative and judicial developments or changes in market and/or overall economic conditions. Newron may not actually achieve the plans, intentions or expectations disclosed in forward-looking statements and assumptions underlying any such statements may prove wrong. Investors should therefore not place undue reliance on them. There can be no assurance that actual results of Newron's research programmes, development activities, commercialisation plans, collaborations and operations will not differ materially from the expectations set out in such forward-looking statements or underlying assumptions.

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