Neuren (NEU) – ASX announcement **21 September 2021**

Neuren submits IND application for NNZ-2591 in Phelan-McDermid syndrome

Melbourne, Australia: Neuren Pharmaceuticals (ASX: NEU) has submitted an Investigational New Drug (IND) application to the US Food and Drug Administration (FDA) for NNZ-2591 to treat Phelan-McDermid syndrome (PMS). Neuren is preparing to commence a Phase 2 trial in children with PMS in the United States following approval of the application.

Neuren has already filed an IND application for NNZ-2591 to treat Angelman syndrome and is also finalising an application for Pitt Hopkins syndrome. Neuren has Orphan Drug designation from both the FDA and the European Medicines Agency for NNZ-2591 in each syndrome. All three are serious neurodevelopmental disorders with no approved medicines. Neuren received clear and constructive guidance from three pre-IND meetings with the FDA Office of Neuroscience to discuss each of the proposed Phase 2 clinical trials.

Neuren CEO Jon Pilcher commented: "This is another important milestone achieved in our plan to develop NNZ-2591 for multiple serious neurological conditions. We are eager to start the Phase 2 trial in children with Phelan-McDermid syndrome, which we hope will demonstrate the potential for NNZ-2591 to provide an urgently needed treatment option."

PMS is caused by a deletion or other change in the 22q13 region of chromosome 22, which includes the *SHANK3* gene, or a mutation of the gene. PMS is also known as 22q13 deletion syndrome. The *SHANK3* gene codes for the shank3 protein, which supports the structure of synapses between nerve cells in the brain. It is estimated that between 1 in 8,000 and 1 in 15,000 people have PMS. The most common characteristics are intellectual disability, delayed or absent speech, symptoms of autism (approximately 75% are diagnosed with autism spectrum disorder), low muscle tone, motor delays, and epilepsy. There is currently no cure or treatment specifically for PMS.

About Neuren

Neuren is developing two new drug therapies to treat multiple serious neurological disorders that emerge in early childhood, none of which have any approved medicines.

The lead compound, trofinetide, is currently in a Phase 3 clinical trial for Rett syndrome with top-line results expected in Q4 2021 and has completed a Phase 2 clinical trial in Fragile X syndrome. Both programs have Fast Track designation from the US Food and Drug Administration (FDA). Neuren has

granted an exclusive licence to Acadia Pharmaceuticals Inc. for the development and commercialisation of trofinetide in North America, while retaining all rights outside North America.

Neuren is preparing to initiate Phase 2 trials of its second drug candidate, NNZ-2591, for each of Phelan-McDermid syndrome, Angelman syndrome and Pitt Hopkins syndrome in H2 2021. Neuren is also planning a Phase 2 trial in Prader-Willi syndrome.

Recognising the urgent unmet need, all six programs have been granted "orphan drug" designation in the United States. Orphan drug designation provides incentives to encourage development of therapies for rare and serious diseases.

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ASX Listing Rules information
This announcement was authorized to be given to the ASX by the board of directors of Neuren Pharmaceuticals Limited, Suite 201, 697 Burke Road, Camberwell, VIC 3124

Forward-looking Statements

This announcement contains forward-looking statements that are subject to risks and uncertainties. Such statements involve known and unknown risks and important factors that may cause the actual results, performance or achievements of Neuren to be materially different from the statements in this announcement.