Neurotech to Initiate New Phase I/II Clinical Trial for NTI164 in Children with PANDAS/PANS

Highlights:

- **Launch of new Phase I/II Clinical Trial of NTI164 in PANDAS/PANS, a paediatric neurological disorder associated with rapid onset of neuropsychiatric symptoms with no regulatory approved treatments, very limited clinical trials and growing clinician awareness**
- **Neurotech has secured additional provisional patent applications around this novel application of NTI164 in PANDAS/PANS**
- **HREC submissions in October, HREC/TGA/CTN approvals anticipated in Q4 CY2022 with patient recruitment to commence in 1H CY2023 across two centres within Australia**
- **New PANDAS/PANS study adds further depth to clinical development pipeline, with multiple programs currently ongoing/planned across three important paediatric neurological disorders**

Neurotech International Limited (ASX: NTI) ("Neurotech" or "the Company"), a clinical-stage biopharmaceutical development company focused predominately on paediatric neurological disorders, today announces the initiation of a new Phase I/II Clinical trial of oral NTI164 in children diagnosed with Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS) and Paediatric Acute-Onset Neuropsychiatric Syndrome (PANS).

PANDAS/PANS is a clinical diagnosis given to children who have a dramatic (typically within one day) onset of neuropsychiatric symptoms including intense anxiety, Obsessive-Compulsive Disorder (OCD) and/or severely restrictive eating. Children may exhibit repetitive tic movements, become moody, irritable/aggressive, and anxious. The cause of PANS is unknown in most cases; however, the disorder is hypothesised to be triggered by infections, metabolic disturbances, and other inflammatory reactions. The PANDAS subgroup is defined by an association with Group A *Streptococcus* infection, and specific neuropsychiatric symptoms similar to PANS. Both PANDAS and PANS are considered rare paediatric (orphan) neurological disorders.[1]

There are currently no US Food and Drug Administration (FDA) and European Medicines Agency (EMA) approved therapies for PANDAS/PANS and very limited clinical trials of new therapeutic interventions. With the development of PANDAS/PANS Diagnostic Criteria and Treatment Guidelines in 2015 and 2017, respectively,[2] there is a unique opportunity for Neurotech's proprietary full spectrum cannabinoid drug formulation, NTI164. NTI164 has proven potent anti-inflammatory and neuro-protective effects *in vitro*, along with an excellent safety and tolerability profile in paediatric patients with Autism Spectrum Disorder. NTI164 has the potential to reduce the neuroinflammation associated with PANDAS/PANS, which is postulated to play a role in the pathogenesis in the majority of cases. Neuroinflammation is one of the main triggers for neurodegeneration.

Professor Russell Dale, Professor of Paediatric Neurology, University of Sydney and Children's Hospital at Westmead and an internationally recognised clinician and researcher in PANDAS/PANS research, said, *"We welcome this new initiative by Neurotech to examine the safety and initial efficacy of NTI164 in children with PANDAS/PANS in a Phase I/II clinical, where clinical trials are desperately needed and effective drug therapies specific for these children are lacking, despite the urgent medical need. The additional gene expression analysis we plan to undertake between baseline and after treatment with NTI164 when compared to a normal control group will provide important new insights into dysregulated gene pathways in children with PANDAS/PANS."*

Professor Michael Fahey, Head of the Paediatric Neurology Unit at Monash Medical Centre and Director of Neurogenetics commented *"I look forward to participating in this novel application of NTI64 in PANDAS/PANS. Having completed a Phase I/II trial with NTI164 in children with Autism Spectrum Disorder, where the safety and efficacy effects were encouraging at 28 days of treatment; the application of NTI164 to this difficult to treat condition, where standards of care are lacking, will provide important new clinical information relating to safety and potential clinical efficacy in these patients."*

Dr Thomas Duthy, Executive Director of Neurotech said *"The initiation of this trial demonstrates the Company's ability to rapidly progress NTI164 into Phase I/II clinical trials in new paediatric neurological disorders, which are often overlooked by larger biopharmaceutical development companies, despite the significant unmet medical need and lack of safe and effective drug therapies. We are therefore delighted to be partnering with Professor Dale and Professor Fahey and their clinical teams in this ground-breaking clinical trial."*

NTIPAN1 is proposed to be a single-arm, open-label, Phase I/II clinical trial that will recruit 10 paediatric patients with a clinical diagnosis of moderate to severe PANDAS/PANS to determine the efficacy and safety of orally administered NTI164 in these patients. The primary endpoint of the trial is the change from baseline for Clinical Global Impression Scales (CGI: severity, global improvement and therapeutic response) and the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS)(OCD severity) – both of which are considered gold-standard, validated clinical assessment tools that are part of standard care in neurology. Key secondary endpoints will examine the Safety and Tolerability of orally administered NTI164 (at 5,10,15 and 20 mg/kg/day). The trial intends to enrol children at two centres within Australia; the Children's Hospital at Westmead and the Paediatric Neurology Unit at Monash Medical Centre.

Neurotech anticipates Human Research Ethics Committee (HREC) approval and Clinical Trial Notification (CTN) scheme clearance by the Therapeutic Goods Administration (TGA) to commence the Phase I/II prior to the end of CY2022, with patient recruitment to commence in 1H CY2023. The results of the trial are anticipated in 2H CY2023.

The Company has filed additional patent applications covering this novel use of NTI164 in PANDAS/PANS and additional rare paediatric neurological disorders where neuro-inflammatory processes are well established in the scientific and medical literature.

Authority
This announcement has been authorised for release by the Board of Neurotech International Limited.

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About Neurotech

Neurotech International Limited (ASX:NTI) is a clinical-stage biopharmaceutical development company focused predominately on paediatric neurological disorders. Neurotech is currently conducting a world-first clinical trial to assess the potential application of NTI164 for the treatment of Autism Spectrum Disorder (ASD). Results of the Phase I/II clinical trial indicated that 93% of participants had notable improvements relating to the severity of illness with no serious side effects. The next step will be initiation of a Phase II/III clinical trial to further assess the long-term safety and efficacy of NTI164, with the potential to lead to drug registration. Neurotech is also commercialising Mente, the world's

first home therapy that is clinically proven to increase engagement and improve relaxation in autistic children with elevated Delta band brain activity.

For more information about Neurotech please visit http://www.neurotechinternational.com.

About NTI164

NTI164 is a proprietary drug formulation derived from a unique cannabis strain with low THC (M<0.3%) and a novel combination of cannabinoids including CBDA, CBC, CBDP, CBDB and CBN. NTI164 has been exclusively licenced from Dolce Cann Global (Ltd), for neurological applications globally. Pre-clinical studies have demonstrated a potent anti-proliferative, anti-oxidative, anti-inflammatory and neuro-protective effects in human neuronal and microglial cells. NTI164 is being developed as a therapeutic drug product for a range of neurological disorders in children where neuroinflammation is involved.

About PANS/PANDAS

Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS) and Paediatric Acute-Onset Neuropsychiatric Syndrome (PANS), collectively PANDAS/PANS, is a clinical diagnosis given to children who have a dramatic (typically within one day) onset of neuropsychiatric symptoms including Obsessive-Compulsive Disorder (OCD) and/or restrictive eating. Children may exhibit repetitive tic movements, become moody, irritable/aggressive and anxious and have difficulty with schoolwork. The cause of PANS is unknown in the majority of cases; however, the disorder is hypothesised to be triggered by infections, metabolic disturbances, and other inflammatory reactions. PANDAS is considered a subset of PANS.

[1] https://rarediseases.info.nih.gov/diseases/7312/index
[2] https://www.pandasppn.org/guidelines/