

Press release

NeuroVive Pharmaceutical AB (publ)
556595-6538



NeuroVive's collaborator the Children's Hospital of Philadelphia awarded NIH grant to study NVP015 against chemical threats

Lund, Sweden, 5 October 2017 - NeuroVive Pharmaceutical AB (Nasdaq Stockholm: NVP, OTCQX: NEVPF, the mitochondrial medicine company, today announced that its research collaboration partner the Children's Hospital of Philadelphia (CHOP) has received a two-year grant, #1R21NS103826-01f in total of 473,000 USD from the U.S. NIH (National Institutes of Health) program Countermeasures Against Chemical Threats (CounterACT). The grant will broaden preclinical research with compounds from NeuroVive's NVP015 program.

NeuroVive and the Children's Hospital of Philadelphia (CHOP) has an ongoing research collaboration around NeuroVive's cutting edge research program, NVP015, primarily aimed at developing a new pharmacological treatment for patients with genetic mitochondrial diseases, an area of high unmet medical need.

Researchers at CHOP, under the lead of Dr. Todd Kilbaugh, Associate Professor of Anesthesiology, Critical Care, and Pediatrics, have received the grant to study NVP015 in a new area - the ability to support mitochondrial function recovery and prevention of organ failure following the immediate exposure of toxic chemicals. The mission of the CounterACT program is to support research and development of therapeutics that can mitigate the health effects of toxic chemicals, including traditional chemical warfare agents, toxic industrial chemicals and pesticides.

"The compounds in the NVP015 program act by bypassing mitochondrial complex 1, which is often affected in the case of chemical toxicity, making the NVP015 program an ideal candidate to explore as a pharmacological treatment option for this indication", commented Dr. Todd Kilbaugh.

"The grant is an indication of the scientific interest this novel treatment strategy has generated, not only in the core focus area of genetic mitochondrial diseases. Thanks to the research grant, the scientific community will gain new exciting knowledge of the potential beneficial effects of the NVP015 compounds and hopefully develop them towards novel treatments against toxic effects of a wide range of chemical agents", said Eskil Elmér, Chief Scientific Officer at NeuroVive.

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About CounterACT

The mission of NIH's CounterACT program is to foster and support research and development of new and improved therapeutics to mitigate the health effects of chemical threats. The scope of the research includes target/candidate identification and characterization, through candidate optimization, and demonstration of *in vivo* efficacy. Projects supported by this funding opportunity are expected to generate preliminary preclinical, screening, and/or efficacy data that would facilitate the development of competitive applications for more extensive support from the NIH CounterACT Cooperative Agreement programs or other related initiatives.

<https://www.ninds.nih.gov/Current-Research/Trans-Agency-Activities/CounterACT>

About NVP015

One of the most common causes of mitochondrial diseases relates to Complex I dysfunction, i.e. when energy conversion in the first of the five protein complexes in the mitochondrion that are essential for effective energy conversion does not function normally. This is apparent in disorders including Leigh's Syndrome and MELAS, both of which are very serious diseases with symptoms such as muscle weakness, epileptic fits and other severe neurological manifestations. The NVP015 project is based on a concept instigated by NeuroVive's CSO Dr. Eskil Elmér and his colleagues by which the body's own energy substrate, succinate, is made available in the cell via a prodrug technology. A prodrug is an inactive drug that is activated first when it enters the body by the transformation of its chemical structure. Results from the NVP015 project were published in the prestigious Nature Communications journal in August 2016.

About Mitochondrial Diseases

Genetic mitochondrial disorders are congenital metabolic diseases that affect cellular energy conversion. The disorders can manifest differently depending on which organs are affected by the gene defects and are viewed as syndromes, depending on the organs affected and the signs and symptoms. Approximately 12 in every 100,000 people suffer from a genetic mitochondrial disorder. Mitochondrial disorders usually present in early childhood. A candidate drug from the NVP015 project would qualify for orphan drug designation in the US and Europe during clinical development, enabling a faster and less costly route to market, and a higher price.

About NeuroVive

NeuroVive Pharmaceutical AB is a leader in mitochondrial medicine, with one project in clinical phase II development for the prevention of moderate to severe traumatic brain injury (NeuroSTAT®) and one project in clinical phase I (KL1333) for genetic mitochondrial diseases. The R&D portfolio consists of several late stage research programs in areas ranging from genetic mitochondrial disorders to cancer and metabolic diseases such as NASH. The company's strategy is to advance drugs for rare diseases through clinical development and into the market. The strategy for projects within larger indications outside the core focus area is out-licensing in the preclinical phase. NeuroVive is listed on Nasdaq Stockholm, Sweden (ticker: NVP). The share is also traded on the OTCQX Best Market in the US (OTC: NEVPF).

NeuroVive Pharmaceutical AB (publ) - the mitochondrial medicine company. The company is listed on Nasdaq Stockholm, Small Cap, under the ticker symbol NVP. The share is also traded on the OTC Markets Group Inc market in the US. NeuroVive Pharmaceutical (OTC: NEVPF) trades on the OTCQX Best Market. Investors can find Real-Time quotes and market information for the company at www.otcmartets.com/stock/NEVPF/quote