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NeurExo Sciences and Henry Ford Health System Present Preclinical Data on Exosomes at ISEV2019 Annual Meeting

– Exosomes demonstrate ability to enhance anti-tumor effect of platinum-based drugs and to ameliorate peripheral neuropathy –

ATLANTA and DETROIT, April 26, 2019 – NeurExo Sciences, LLC (NXS), a biotechnology company focused on the development of exosome therapies and subsidiary of NeuroTrauma Sciences LLC, and Henry Ford Health System (HFHS), a non-profit organization, today announced the presentation of new data on exosomes International Society for Extracellular Vesicles (ISEV) 2019 Annual Meeting being held April 24-28, 2019 in Kyoto, Japan.

Among their key findings, Henry Ford researchers demonstrated the ability of exosomes to suppress chemotherapy-induced peripheral neuropathy and enhance the anti-tumor effects of platinum drugs, which are commonly used to treat cancers.

Peripheral neuropathy is a common adverse effect of platinum based chemotherapy. Neurotoxicity often requires platinum drug dose reduction, compromising therapeutic efficacy of platinum drugs to suppress tumor progression. In the oral presentation, ***Exosomes from cerebral endothelial cells suppress chemotherapy-induced peripheral neuropathy and sensitize anti-tumor effects of platinum drugs,*** Zhenggang Zhang MD, PhD, senior scientist of Henry Ford Health System in Detroit, explained how isolated exosomes from cultured human primary cerebral endothelial cells (CEC-exos) were used in the treatment of mice bearing ovarian cancer with platinum drugs induced peripheral neuropathy. Tumor bearing mice treated with platinum drugs along with CEC-exos (n=7/group) exhibited significant reduction of platinum-drug induced peripheral neuropathy. Moreover, CEC-exos in combination with platinum drugs significantly decreased tumor size by 80-91% compared to platinum drugs alone, which reduced tumor growth by 50-72%.

“Our preclinical data demonstrate the ability of the exosome treatment to ameliorate platinum-drug induced peripheral neuropathy,” said Dr. Zhang. “In addition to restoring the neuroprotective network, our exosomes were able to suppress a chemoresistant network of mirRNAs/protein-coding genes to amplify the anti-tumor effect of platinum drugs.”

Separately, Henry Ford researchers presented additional research in a poster presentation, ***Comprehensive proteomics and microRNA analyses of adult neural stem cell derived exosomes after stroke,*** to elucidate the function of neural stem cell (NSC) exosomes in promoting neurovascular remodeling including angiogenesis and axonal outgrowth after stroke. The results of their proteomic and miRNA analysis demonstrated that NSC derived exosomes contain a robust profile of protein and miRNA effectors. These data may help elucidate the function of NSC derived exosomes in stroke-induced neurogenesis, as well as potentially lead to new treatment of ischemic cerebral tissue-related diseases.

The abstracts are available on NeuroTrauma Science’s website, www.neurotraumasciences.com.

“Exosome technology has exciting potential across many therapeutic areas,” said Carl Long, NeuroTrauma Sciences Co-founder and Chief Executive Officer. With our partners at Henry Ford, we are

pioneering exosome technology for multiple neurological conditions, including neuropathies, as well as traumatic brain injury and stroke."

About Exosomes

Exosomes are small extracellular vesicles that transport DNA, RNAs, lipids and proteins between cells, allowing organs, tissues and cells to communicate with one another and elicit specific biological responses based on their cargo. MicroRNAs transported by exosomes regulate gene translation and play primary roles in mediating a vast array of biological functions, including immunomodulation and the potential to enable multiple pathways of neurovascular restoration.

About the Chopp Lab in the Department of Neurology and the Neurosciences Institute at Henry Ford Hospital

Dr. Chopp is dedicated to translational research in neuroscience, and he and his group are recognized as foremost authorities on exosomes and microRNA for treatment of neurological injury and disease. The focus of the laboratory is the pathophysiology of stroke and traumatic brain injury; mechanisms of neuroprotection, and cell-based, biologic (e.g. exosomes), molecular and pharmacological neurorestorative therapies for stroke, traumatic brain injury, and neurodegenerative disease. Dr. Chopp has approximately 750 peer reviewed publications and has received numerous prestigious research awards. His laboratory, comprising 70 researchers and staff, is one of the leading research centers in the world in translational neuroscience and restorative neurology and was the first lab to use mesenchymal stem cells (MSCs) as well as exosomes derived from MSCs and other sources, to treat stroke, TBI, and neurodegenerative diseases. His lab has been awarded more than $80 million in total funding and has 19 active NIH grants.

About NeurExoSciences

NeurExo Sciences, LLC, a privately-held biopharmaceutical company and subsidiary of NeuroTrauma Sciences, LLC, was formed in 2018 to advance Henry Ford's pioneering technology involving exosomes as extracellular vesicles enriched with microRNA for the purpose of treating stroke, traumatic brain injury (TBI) including concussion, and neuropathies. NXS has worldwide commercial rights to product candidates resulting from the exosome and miRNA IP and sponsored research generated by the lab.

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