



CPRIT awards Acelerox grant to develop PEG-HCC nanoparticle for treatment of chemotherapy-induced hearing loss

HOUSTON, February 6, 2018 – The Cancer Prevention and Research Institution of Texas (CPRIT) has awarded Acelerox, LLC, a Fannin Innovation Studio[®] company, a \$195,665 grant to develop poly(ethylene glycol)-functionalized hydrophilic carbon clusters (PEG-HCC) antioxidant nanoparticles as a novel therapeutic to protect patients from chemotherapy-associated hearing loss.

Acelerox is a preclinical biotechnology company developing novel antioxidant nanoparticles for therapeutic use in cancer, neurological and autoimmune diseases. In partnership with Baylor College of Medicine, the CPRIT award will be used to develop the optimal therapeutic dose and timing of the nanoparticles to achieve efficacy in reducing chemotherapy-induced auditory decline.

The auditory system is negatively affected by oxidative stress. Preclinical studies have demonstrated that reductions in reactive oxygen species (ROS) can protect patients from chemotherapy-induced hearing loss. PEG-HCCs are a novel class of nanoparticles which can quickly and potently destroy ROS following administration of cisplatin, a common chemotherapy agent. Acelerox has demonstrated preliminarily that these nanoparticles are efficacious in reducing hearing loss in chemotherapy-treated animals, and it has the potential to protect against cell damage that ultimately leads to vasculature damage. PEG-HCCs are a promising option to reduce chemotherapy-associated hearing loss as they are readily bioavailable and do not show signs of toxicity.

Acelerox proposes to continue development of PEG-HCCs for clinical use as both as a single agent and in combination therapy. In addition to these studies in the auditory system, PEG-HCCs are also being evaluated to address Alzheimer's disease, rheumatoid arthritis, spinal cord injury and the associated gastrointestinal loss of function.

PEG-HCCs were developed by James M. Tour, Ph.D., T. T. and W. F. Chao Professor of Chemistry, Professor of Computer Science, and Professor of Materials Science and NanoEngineering at Rice University. The principal investigator for the grant is Fred Pereira, Ph.D., Associate Professor in the department of Molecular and Cellular Biology at Baylor College of Medicine, whose research is aimed at understanding human auditory disorders through molecular characterization of distinct signaling pathways with the ultimate goal of developing therapies to improve the quality of life during aging and

cancer. Dr. Pereira, who demonstrated the use of these particles to ameliorate hearing loss, said, “This is an exciting opportunity to develop the disease applications of PEG-HCCs. Reducing the hearing loss side effects of chemotherapy can truly improve the quality of life for so many patients struggling with the devastation of cancer.”

“Fannin is optimistic that the partnerships that have been built within Acelerox will help us successfully launch PEG-HCCs as potent antioxidants in an array of diseases or adverse sides effects that are caused by ROS. The possible applications for this nanoparticle are significant,” stated Aundrietta Duncan, Ph.D., Fellow at Fannin.

Acelerox is a portfolio company of Fannin, a Houston-based company that provides integrated funding and management of early-stage life science startups. Acelerox research and development activities are actively managed by Fannin Principal Dev Chatterjee, M.D., Ph.D, and Duncan. Fannin’s Managing Partner Atul Varadhachary, M.D., Ph.D., serves as President.

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About Fannin Innovation Studio

Houston-based Fannin Innovation Studio is an early-stage life sciences development group focused exclusively on commercializing medical technologies. Fannin partners with life science innovators to co-found startup companies and provides a pooled management team, funding, and administrative support. To further bridge the commercialization gap, Fannin’s internship and fellowship programs provide aspiring entrepreneurs with hands-on development experience with its portfolio companies. For more information, visit www.FanninInnovation.com or email innovate@fannininnovation.com.

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