New Research Shows Promising Signs in Anti-Aging for Araim Pharmaceuticals

Experiment Demonstrates Cibinetide (ARA 290) Significantly Reduces Frailty and Decline in Heart Function Associated with Aging in Animal Models

SAN DIEGO, CA, May 2, 2018. Research performed at the National Institute on Aging (NIA), part of the NIH, presented last week at the annual Experimental Biology meeting (abstract available here) demonstrated that a small peptide, cibinetide (ARA 290), is capable of decreasing age-related decline in heart function, and the frailty associated with aging in animal models. Cibinetide works via activating the body's innate repair receptor (IRR), thereby decreasing chronic inflammation that is linked to age-associated declines in heart structure and function that contribute to higher risks for mortality and reduced healthspan, i.e., the length of time an individual remains healthy.

Researchers lead by Dr. Edward Lakatta from the NIA Laboratory of Cardiovascular Sciences and the Translational Gerontology Branch treated rats with cibinetide or saline from age 18 to 33 months, monitoring survival, heart function, and assessing their frailty on a scale that considered the integument, musculoskeletal, vestibulocochlear, ocular, neurological, digestive, and respiratory systems. The results show that cibinetide administration significantly slowed the decline in body weight and heart function, including ejection fraction and heart rate response to autonomic blockade. The frailty score was also significantly lower in cibinetide-treated animals, which, along with maintained heart function, likely contributed to the greater healthspan near the end of life in the cibinetide-treated animals. The research presented here is a portion of a much larger program supported by the National Institutes of Health/National Institute on Aging Intramural Research program with the goal of exploring cibinetide's ability to reduce multi-organ, senescence-associated inflammation, and delay the effects of aging.

As life expectancy increases, age-related complications have become an extreme global burden, with cardiovascular disease being the leading cause of death in the world. The high prevalence of costly chronic diseases, such as heart disease, cancer and diabetes, suggests health care efforts should focus on improving healthspan, as opposed to lifespan alone. "Of all the breakthrough therapies I have worked on (hemoglobin A1c and anti-TNF therapy), the Innate Repair Activators may offer the most help to patients. Dr. Lakatta saw this potential early on, and these extensive studies bore out the tantalizing potential to increase healthspan," stated Dr. Anthony Cerami, Araim's Founder.

Cibinetide is currently in development by **Araim Pharmaceuticals, Inc.**, a private biotechnology company with a library of peptides that activate the repair mechanisms at the cellular and tissue level in a wide variety of disease conditions. Cibinetide, the lead molecule in the library, has demonstrated disease-modification and clinical effects on neuropathy phase 2b trials endpoints such as nerve regeneration, pain, and functional mobility. Cibinetide's most advanced clinical programs are in sarcoidosis-related small

fiber neuropathy, for which it has US and EU Orphan Drug and US Fast Track designations, and significant clinical work has been advanced for the treatment of diabetic peripheral neuropathy. Araim has an ongoing, active and promising preclinical program in a wide array of conditions involving tissue damage and repair, including neuropathy, cardiovascular damage, diabetes complications, wound healing and aging. The NIA Laboratory of Cardiovascular Science has a Cooperative Research and Development Agreement with Araim Pharmaceuticals Inc.

About Araim Pharmaceuticals, Inc.

Araim Pharmaceuticals, Inc. is a private clinical stage biopharmaceutical company with a novel platform technology designed to address devastating injuries and chronic diseases underserved by current therapies. With their discovery of the Innate Repair Receptor (IRR), Araim has identified the target for activating tissue repair and recovery from inflammation and other injuries. Their novel peptide library of IRR specific ligands activates tissue protective, reparative and anti-inflammatory signaling pathways and have shown pre-clinical and clinical efficacy in numerous chronic and acute inflammatory conditions. www.araimpharma.com

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