Abzyme Awarded Highly Competitive National Institutes of Health Phase I SBIR Grant

Royersford, PA, September 15, 2017. Abzyme Therapeutics LLC, a biotech company focused on developing antibodies for diagnostic and therapeutic application, has been awarded a $224,926 Small Business Innovation Research (SBIR) Phase I Grant by the National Institutes of Health (NIH) to develop antibodies recognizing a post-translation arginylation.

The NIH SBIR program is a highly competitive program for small businesses that are seeking to commercialize innovative technologies with biomedical applications. The program helps small businesses participate in federal research and development, develop life-saving technologies, and create jobs. Abzyme will use innovative yeast display of a highly diverse human antibody Fab library with self-diversifying ability to select for arginylation-specific binders.

Arginylation is essential for mammalian embryogenesis and regulation of the cytoskeleton function in cell migration, a process that plays key roles during tissue morphogenesis and cancer metastases. A recent explosion of studies has put arginylation on the map of intracellular metabolic pathways and biological processes and demonstrated its key involvement in the central events of cell metabolism, normal function of multiple physiological systems, and cell transition to metastatic cancers. Research in the protein arginylation field is however hampered by the lack of antibodies or other tools that selectively recognize arginylated proteins.

Abzyme will utilize its combined expertise in generating arginylated linkage peptides and yeast genetics to generate a diverse array of antibodies that will advance the field of cell biology. In Phase I, synthetic peptides which encompass both the isopeptide bond and the sequence surrounding the arginine attachment sites in alpha-synuclein will be employed. In Phase II this approach will be expanded to include the development of arginylation antibodies of global specificity, which can serve as major tools for biomedical research including inverse correlation of arginylation and ageing, neurodegeneration and clinical diagnostics.

Unique to Abzyme is its proprietary eukaryotic in vitro antibody discovery/optimization platform based on yeast display self-diversifying libraries, rapid target-directed antibody maturation, and a FACS single cell sorting approach to identify desired antibodies. Abzyme's antibody platform incorporates the ability to select for key properties such as epitopic diversity, binding affinity, expressibility, solubility, developability and target-specificity into real-time screening.

"We are extremely pleased to be recognized with this highly competitive award from the NIH SBIR program" said Dr. Tran, CEO and co-founder of Abzyme. "This SBIR grant plays a vital role in expanding our antibody development capabilities. We are grateful for the continued support towards our mission of developing diagnostic and therapeutic antibodies".

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