

Abzyme Files Patent Application for Self-Diversifying Antibody Platform

Royersford, PA, August 02, 2017. Abzyme Therapeutics LLC, a biotechnology company focused on developing antibodies for diagnostic and therapeutic applications, has filed a patent application entitled "*Composition and Method for Diversifying Polypeptide Libraries*", USPTO number 62/387,511. This is an important milestone for Abzyme Therapeutics in protecting its intellectual property and solidifying its IP position as a leader in the field of antibody engineering and development. The invention provides a method and composition for diversifying polypeptide libraries displayed on the surface of yeast cells. The antibody library built in this self-diversifying platform has potentially unlimited diversity. One application of this technology is *in vivo* rapid generation of therapeutic antibody candidates with desired attributes. It can also be used for maturation of existing antibodies to achieve higher target binding affinity or protein expressibility.

As provided by this invention, a polypeptide library is displayed on the cell surfaces of a highly engineered yeast strain. The yeast strain incorporates an inducible hypermutation system that exclusively introduces base substitutions into a gene of interest. In combination with biological panning, an antibody molecule displayed on the yeast cell surface sequentially undergoes diversification followed by affinity selection to achieve higher binding affinity to a target of interest. Using this technology platform, Abzyme develops various types of antibodies including, but not limited to camelid and human single domain antibodies, human ScFv and full human IgG.

"Filing this application is very important milestone for Abzyme Therapeutics. This patent application further solidifies our IP position in the field of antibody development and engineering" said Dr. Tran, CEO and co-founder of Abzyme. "We use this technology every day to generate therapeutic antibody candidates to difficult targets including non-immunogenic or toxic antigens. This invention actually makes work easier and significantly faster in discovering antibodies with desired therapeutic attributes".

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