

Abzyme Patent Application for Generating Bispecific Functional Agents Filed

Royersford, PA, October 09, 2017. Abzyme Therapeutics LLC, a biotech company focused on developing antibodies for diagnostic and therapeutic applications, has filed a patent application entitled "*Method for Generating Bispecific Functional Agents*", USPTO number 62/530,960. Filing of this patent application, the third in the last eight months, is another important milestone for Abzyme Therapeutics in expanding its IP portfolio. In general the present invention provides a method for preparing a modular scaffold that can bind to a target antigen and a method for engineering a bispecific functional agent consisting of an existing polypeptide binder fused at its C-terminus with said modular scaffold. In a particular application of the invention, an existing antibody can be rapidly transformed into an IgG-like bispecific antibody while preserving its original target binding affinity and Fc effector function.

Compared to traditional antibodies, bispecific antibodies offer a significant improvement in therapeutic index. However, the use of bispecific antibodies has been hindered by difficulties in producing them in sufficient quantity and purity. The two main limitations for the use of bispecific functional agents are manufacturability (e.g. difficulties in large scale production of pure bispecific antibodies, aggregation caused by non-natural structure, heavy- and light-chain mispairing in the case of scFv) and poor pharmacokinetic and pharmacodynamics properties including immunogenicity, short serum half-life, or loss of Fc effector function caused by the lack of the fragment crystallizable (Fc) region. Accordingly, there remains a critical need for easily engineered bispecifics with superior properties, like low immunogenicity and long half-life in humans that can be readily produced at high yield from mammalian cell culture while preserving the functional activity of the antibody components. The present invention addresses these problems by providing a method and composition for rapid reformatting of existing IgG antibody into well-expressing IgG-like bispecific antibody.

"This invention is very important step forward for Abzyme Therapeutics", said Dr. Tran, CEO and co-founder of Abzyme. "Filing this patent application not only further solidifies our IP position in the field of antibody engineering, but also allows open conversation with our clients. We are excited to see how this technology can rapidly convert existing antibodies into well-expressing easy-to-purify IgG-like bispecific antibodies. The invention truly makes our work easier".

For further information, please contact:

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