

Fabrus Scientists' Work Published in Journal Cell

Paper demonstrates potential for cow antibodies to treat human diseases

La Jolla, CA – June 6, 2013 – Fabrus Inc., a company developing a next-generation antibody discovery platform that expands the therapeutic applications of antibodies, today announced the publication of data in the journal *Cell* detailing a structural and sequence analysis of unusually long CDR3 antibodies from cows. Fabrus scientists were co-authors on the paper detailing results of work led by researchers from The Scripps Research Institute and including contributions from Texas A&M University scientists. These unusual antibodies may have the potential to hit targets that have not been amenable to human antibodies, including g-protein coupled receptors (GPCRs) and ion channels, both therapeutically important classes of proteins. Fabrus is generating libraries of these long antibodies for discovery of human therapeutics.

Antibodies can recognize a unique segment of a foreign target, called an antigen. Among the structures on an antibody that recognize the antigen is a small set of protein loops called complementarity-determining regions (CDRs). In humans, most of an antibody's specificity is governed by the largest CDR, CDR H3. Evidence has shown that antibodies with unusually long CDR H3 regions may be a more effective defense against disease than typical antibodies. In cattle, 10% of antibodies have ultralong CD3 H3 regions, so understanding the structure and diversity of these antibodies may provide new avenues for therapeutic development.

“Antibodies have been very important therapies for cancer, autoimmune disorders and transplant rejection, but they have not been amenable to targeting certain kinds of proteins that play a key role in other diseases and are currently only treatable with small molecules,” said Omar Bazirgan, Ph.D., Senior Scientist at Fabrus and an author on the paper. “With their long CDR H3 region, the cow antibodies detailed in the *Cell* paper look interesting for their potential to zero in on those targets that haven't been successfully targeted by traditional antibodies.”

Unlike traditional forms of antibody discovery, which rely on soluble proteins to elicit an antibody response from a pool of antibodies, Fabrus uses an unbiased, spatially addressed antibody library that allows direct screening on the cell surface. This approach allows the discovery of antibodies to targets, including GPCRs, that have been intractable for antibody therapeutic development in the past. The cow antibody technology will be an important complement to Fabrus' platform.

About Fabrus

Fabrus was founded in 2007 to develop a next generation antibody discovery platform that expands the therapeutic applications of antibodies beyond those identifiable through existing discovery platforms. Fabrus is the first company to bring the speed and flexibility of small molecule screening to the field of fully human antibody therapeutics, while being unencumbered by existing antibody engineering intellectual property. The novel discovery format is analogous to a combinatorial chemistry library and enables direct cell based screening, opening novel targets to antibody therapeutics like G-protein coupled receptors or ion channels. For more information visit www.fabrus.net.

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