

PRESS RELEASE

ProBioGen and Abcuro signed GlymaxX[®]-Improved Cell Line Development and GMP Production Agreement

Berlin, Germany, May 23rd, 2019:

ProBioGen AG, a premier service and technology provider for complex therapeutic antibodies and glycoproteins, today announced the closing of a services and license agreement with Abcuro, Inc. Pursuing a new generation of immune modulatory bio-therapeutics, Abcuro has developed a new first in class antibody for autoimmunity and oncology indications.

Under the agreement, ProBioGen will conduct the full service package from cell line development using its CHO.RiGHT™ expression platform over process development until GMP manufacturing. Since killing target cells is the critical mode of action of Abcuro's antibody, ProBioGen's proven antibody-dependent cellular cytotoxicity (ADCC) enhancer technology GlymaxX[®] will be an integral part of cell line development.

"We are glad to have started our collaboration with Abcuro", says ProBioGen's Chief Executive Officer Dr. Wieland Wolf. "This is yet another project that benefits not only from our proven development and manufacturing capabilities but also our proprietary technology platform for drug candidate optimization. It reflects again the continuing demand for our advanced optimization technologies."

"Working with the right partner is a critical element in developing a compelling product candidate", said Stefano Gullà, Abcuro's Chief Executive Officer. "Thus we are excited to work with ProBioGen as they have the experience, the technical expertise and a very committed team. ProBioGen is well known in the community to provide highest quality in proven timelines. Abcuro's commitment to developing life-changing therapies for patients is a perfect match for their focus on the client's needs."

About ProBioGen AG - www.probiogen.de

ProBioGen is a premier, Berlin-based specialist for developing and manufacturing complex therapeutic antibodies and glycoproteins.

Combining both state-of-the-art development services, based on ProBioGen's CHO.RiGHT™ expression and manufacturing platform, together with intelligent product-specific technologies yields biologics with optimized properties.

Rapid and integrated cell line and process development, comprehensive analytical development and following reliable GMP manufacturing is performed by a highly skilled and experienced team.

All services and technologies are embedded in a total quality management system to assure compliance with international ISO and GMP standards (EMA/FDA).

ProBioGen was founded 1994, is privately owned, and located in Berlin, Germany.

About GlymaxX[®]

The GlymaxX[®] technology, developed by ProBioGen, prevents the cellular synthesis of the sugar "fucose" and hence, in antibody-producing cells, its addition to the N-linked carbohydrate part of the antibody. The absence of fucose is known to greatly enhance ADCC. The GlymaxX[®] technology is based on the stable

introduction of a gene for an enzyme which blocks the producer cells' fucose biosynthesis pathway. As a unique feature, differentiating it from other approaches, GlymaxX[®] can be applied to both novel or already existing antibody producer cell lines, and entire antibody expression and discovery platforms, without negatively affecting their productivity or other product characteristics.

Furthermore, a single GlymaxX[®] cell line can be flexibly used to produce differently fucosylated products, depending on the upstream process: In fucose-free medium the antibody is literally afucosylated. The same GlymaxX[®] cell line grown in fucose-containing medium however, uses the provided fucose and produces fully fucosylated antibody. Thus, a GlymaxX[®] cell line can be employed to produce different products: For instance ADCC-enhanced GlymaxX[®] antibodies or wildtype-like, fully fucosylated mAbs, for a parallel Antibody-Drug-Conjugate (ADC) project.

Finally, GlymaxX[®] has been used by biosimilar-developing companies to adjust a specific content of fucose in order to match the originators glycoprofile. Overall, GlymaxX[®] is simple, rapid, potent, and universally applicable to different CHO hosts and all other eukaryotic cell species.

ProBioGen offers its GlymaxX[®] technology royalty-free and non-exclusively as a service or as an individual license.

About Abcuro - www.abcuro.com

Abcuro's mission is to develop a new generation of immunomodulatory therapeutics for treating both autoimmunity and cancer. The company uses proprietary analysis of transcriptome data from human disease to identify new approaches to target key compartments of the immune system. Abcuro was launched in 2016 and is based in Newton, Massachusetts. For more information, please visit abcuro.com.

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