mAbs, an international, peer-reviewed journal publishes article of an monoclonal antibody produced in ciliates

Leading journal presents a proof of principle study for Cilian's expression technology CIPEX-System to produce monoclonal antibody candidates.

Münster, Germany, February 1, 2017, Cilian AG, a biopharmaceutical company focused on the development of subunit vaccines, enzymes and monoclonal antibodies, announces that mABs, the international, peer-reviewed, open-access, online publication journal, has published an article entitled:

Antibody production using a ciliate generates unusual antibody glycoforms displaying enhanced cell-killing activity.

mAbs is a multi-disciplinary journal dedicated to the art and science of antibody research and development. The journal has a strong scientific and medical focus, but also strives to serve a broader readership. The articles are thus of interest to scientists, clinical researchers, and physicians, as well as the wider mAb community, including our readers involved in technology transfer, legal issues, investment, strategic planning and the regulation of therapeutics.

Jenny Calow and Anna Behrens, the first authors of the article (http://www.tandfonline.com/doi/full/10.1080/19420862.2016.1228504) are from Cilian AG, Münster, Germany, and from Dr. Max Crispins Glycoprotein Therapeutics Laboratory, which is part of the Department of Biochemistry of the University of Oxford, UK.

The authors demonstrated successfully in a study the use of *Tetrahymena thermophila* as a recombinant protein expression platform for the production of a therapeutic monoclonal antibody.

They concluded that: "We report the expression in *T. thermophila* of a chimeric human-mouse monoclonal anti-CD20 antibody that exhibits comparable antigen binding properties and similar apoptosis induction abilities in target cells compared to the commercial anti-CD20 antibody produced in Chinese hamster ovary (CHO) cells (rituximab, MabThera®, Roche)."

The authors also noted that: "For the measurement of the ADCC effector function we applied the fully glycosylated fraction of the Tt/C2B8 and could demonstrate an ~17-fold increase in antibody-dependent cytotoxicity compared MabThera®."
Commenting on the paper, Dr. Marcus Hartmann, CSO of Cilian AG, "It is gratifying and encouraging that in collaboration with the independent research group of Dr. Max Crispin we could demonstrate, that the scalability of antibody production in ciliates and associated unique human-like glycosylation presents new opportunities for the manufacture of therapeutic antibodies with tuned pharmacokinetic properties and effector functions."
Dr. Max Crispin, head of the Glycoprotein Therapeutics Laboratory group added: "Our detailed analysis of the ciliate-derived antibodies has demonstrated that Cilian AG have succeeded in producing anti-bodies whose glycans contain structures observed in humans. That these anti-cancer antibodies also exhibit enhanced cell-killing of targets makes ciliates a very interesting platform for antibody production"
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