

Press Release

April 19th, 2021

***Science Advances* publishes proteomics technology from Oblique Therapeutics AB with a potential to bring several novel antibody medicines to large patient populations in multiple disease areas**

Gothenburg, Sweden, April 19th, 2021 – Oblique Therapeutics AB, a Sweden-based biotech company, in collaboration with Karolinska Institutet (Stockholm, Sweden), Gothenburg University (Sweden) and several local biotechs published promising research results in the highly-acclaimed scientific journal *Science Advances* (AAAS) entitled: *Rational Antibody design for Undruggable Targets using Kinetically Controlled Biomolecular probes*. The peer-reviewed article describes how Oblique Therapeutics' AbiProt® technology can be used to discover and develop pharmacologically tailored antibodies against clinically important targets widely considered undruggable with antibodies. Two example antibodies are presented in the article. One is targeting *hTRPV1*, a clinically validated pain target. The second antibody is targeting KRAS, a highly relevant oncogene of critical importance in the etiology of many aggressive cancers (ex: pancreatic cancer). These early results have the potential to contribute to the development of much needed novel medicines across several therapeutic areas.

The global antibody therapeutics market is estimated to be worth close to 200 Bn USD in 2026 (*MarketWatch*). Surprisingly, only about 60 antibody medicines (based on target), are currently available to patients. Important target classes such as G-protein-coupled receptors and ion channels are particularly underexploited. In contrast, there are about 1,500 known drug targets of which several are clinically or human-genetics validated. Novel medicines addressing these drug targets would bring game changing benefits to large populations of patients suffering from incurable, untreatable, and refractory disease. A staggering example is the need for new pain medications to replace the unsatisfactory and addictive morphine and opioid regimens. But here, and in many other therapeutic areas, current antibody technologies fail to deliver meaningful medicines.

The research article in *Science Advances* presents a new high-tech antibody discovery approach called Abiprot®, developed from nanoscience, computer technology, and proteomics. Abiprot® identifies antibody binding sites on native-state, disease-relevant proteins at high resolution. The platform was developed by Oblique Therapeutics with the intention to create new antibody medicines addressing large unmet medical needs across several therapeutic areas. As an example, the paper demonstrates the first-ever stimuli-selective monoclonal antibody targeting TRPV1, prospectively developed for replacing opioids in pain management. Another example includes novel mutant-selective KRAS antibodies providing means to target the most prevalent KRAS mutated cancers.

Prof. Owe Orwar, CEO Oblique Therapeutics: *"The excitement and joy of science and technological advancement is to prove that what was previously impossible or highly improbable is now possible. Even more satisfying is if the impossible or improbable translate into a hope for creating higher societal values, better health, and improved quality of life for millions of patients. Our dream is that the published technology will widen the scope of antibody therapeutics for the benefit of patients and we are very excited about what the future will hold. Science Advances, is globally ranked as the number three scientific journal in multidisciplinary sciences only after Nature (Springer Nature Limited) and Science (AAAS). To be able to publish company-critical results in Science Advances is therefore a testimony to the importance and potential impact of the study results. Since the conclusion of the published study, we have made significant advancements, and improvements in our antibody programs. For the TRPV1 antibody program we have entered into an R&D collaboration and exclusive option to licence agreement with a top-20 pharma company. A key component in our vision is to be the first-ever pharma company to bring a pain antibody medicine targeting ion channels to market".*

Publication

The published article can be found here:

<http://advances.sciencemag.org/>

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Collaboration

The research was conducted by Oblique Therapeutics AB in collaboration with scientists from:

The Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm, Sweden

<https://ki.se/en/fyfa/department-of-physiology-and-pharmacology>

Gothenburg University, Sweden

<https://www.gu.se/en>

Integrative Research Laboratories, Gothenburg, Sweden

<https://www.irlab.se>

Fluicell AB, Mölndal, Sweden

<https://fluicell.com>

Nanoxis Consulting AB, Gothenburg, Sweden

<https://nanoxisconsulting.com>

Support

The study was supported by Sweden's innovation agency Vinnova

<https://www.vinnova.se/>

About Abiprot®

Abiprot®, is a proprietary methodology to identify epitopes on protein targets that have previously proven difficult to address with antibodies. Abiprot® can identify high-affinity antibody binding sites in a given protein with single amino acid resolution while the protein resides in its native environment. It is based on using a tailored molecular reporter system and proteomics. The platform yields detailed sequence and structure information for epitope identification and development. Oblique Therapeutics is applying this technology for discovery of a new generation of selective antibody therapeutics targeting cancer and pain.

About Oblique Therapeutics AB

Oblique Therapeutics AB is a privately held Swedish biotech company developing innovative new medicines for severe diseases with a large unmet medical need focusing on pain and aggressive metastatic cancer. The company uses Abiprot®, an in-house-invented, next-generation antibody platform that can generate antibodies with programmed function against the full human proteome. <https://obliquet.com/>

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