

CellJammer[®] discovery platform



ProtAffin has developed the CellJammer[®] discovery platform to generate glycan-binding decoy proteins for the treatment of inflammatory diseases and cancer. The platform combines bioinformatics, structure-based protein engineering and proprietary assays to develop protein-based therapeutics. ProtAffin has already demonstrated the validity of the CellJammer[®] discovery platform for five distinct target proteins.

Technology

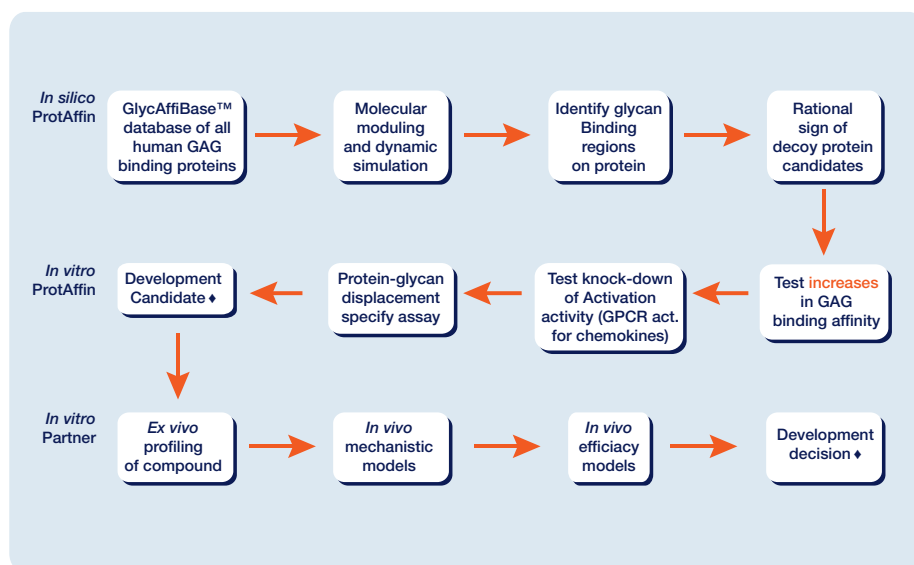
The protein target or chemokine involved in inflammatory disease is selected and the nature of the protein-glycan interactions is analyzed using proprietary databases and algorithms. The glycosaminoglycan (GAG) binding affinity of the protein is increased by modifying selected amino acids, while a second modification is then made to inactivate the signaling portion of the protein. This creates a decoy protein, which blocks the interaction between the unmodified protein and its GAG ligand. The process from project initiation to *in vivo* testing takes 9 months.

Partnering

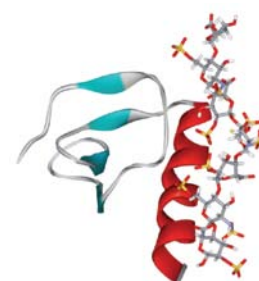
ProtAffin is actively seeking collaborations with biotechnology and pharmaceutical companies to apply the CellJammer[®] discovery platform to target proteins that interact with glycans. While the Company is currently focusing on more than 40 chemokines involved in inflammation, it is open to partnering other targets under investigation, in particular in the field of oncology. ProtAffin will also collaborate with companies targeting GAG-binding proteins with traditional modalities (i.e. heparins, small molecules and mAbs) that are interested in comparing efficacy to glycan-binding decoy proteins. More information on the pharmacological properties of glycan-binding decoy proteins is available under CDA. The MCP-1 decoy program and the SDF-1 α decoy program are currently unpartnered.

Advantages

- ProtAffin is pioneering this new class of protein therapeutics that target glycans responsible for driving inflammatory processes and cancer.
- In contrast to all other biologic and antibody companies which target proteins, ProtAffin is developing a unique paradigm that specific glycans are a rich source of druggable targets for the Pharma and Biotech Industry.
- ProtAffin's approach of modifying human proteins to bind disease associated glycans with higher affinity is applicable to many of the best known targets in inflammation and oncology. As glycans modify the localization, shape and surface charge of proteins, it is often difficult to target these proteins optimally with traditional modalities (e.g small molecules and monoclonal antibodies).
- ProtAffin also offers an alternative way to target protein function avoiding antibody target-related IP.
- The company has also shown that glycan-binding decoy proteins have unique and beneficial pharmacological properties, related to their novel mode of action.



Outline of CellJammer[®] discovery platform, from analysis of target to *in vivo* proof of concept within 9 months.



Model of IL-8 monomer bound to a GAG molecule

Relevant Proteins

Proteins binding to glycans (GAGs), initially chemokines

Drug discovery

An alternative to mAbs for optimal targeting of glycan-binding proteins

Disease areas

Respiratory, inflammation and cancer

Management

Jason Slingsby, CEO
Andreas Kungl, CSO