Developing biotherapeutic strategies to target glycosaminoglycans in immune-cell mediated diseases

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Glycosaminoglycans (GAGs) are major mediators of cell-cell communications in healthy and pathological processes. These carbohydrates exert their function typically by binding, localising and activating signalling molecules like growth factors and cytokines by which various cell types like immune and cancer cells, but also pathogens like viruses and bacteria, are directed to their place of action.

We are therapeutically targeting the interface of GAG-binding proteins by engineered chemokines, by monoclonal antibodies as well as by natural GAGs and GAG mimetics [1].

We will present data relating to the inhibitory potential of our biologics in the context of metastatis formation, solid tumor growth, and viral infection. A drug development point of view will be exploited by correlating *in vitro* pharmacology - like protein-drug affinities and GAG pattern recognition specificity [2] - with *in vivo* pharmacology, like serum halflife, exposure and bioavailability [3]. An outlook on the future of GAG drugability by biologics will be given.

Bibliographic references:

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