Antibodies specifically recognizing cancer-associated glycoforms of mucin-like proteins

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Abstract 1462

- GlycoTargets = Tumor-associated protein/carbohydrate combined epitopes
- GlycoTargets offer superior tumor specificity compared to protein targets
- GlycoTargets exhibit reduced off-target/off-tumor toxicity, which is key for highly potent therapies

Characterization of anti-MEGF9 mAbs

- ELISA: Binding to different glycoforms
- FCM: Binding to GlycoCells
- aMEGF9 mAbs do not bind to healthy tissue
- GlycoTarget specific binding

Characterization of anti-PODXL mAb

- ELISA: Binding to different glycoforms
- FCM: Binding to GlycoCells
- aPODXL mAbs were generated by phage display, following affinity maturation of the most promising clone
- aPODXL mAbs bind to glycosylated PODXL
- GlycoTarget specific binding

Summary

- The parental and matured Anti-PODXL clones specifically recognize their target in a glycosylation-dependent manner as proven by ELISA and FCM
- This glycosylation-dependent recognition enables binding on cancer cells after their epitopes have been demasked by neuraminidase treatment
- Affinity maturation lead to an increase in on-target binding, especially on cancer cells
- The matured clone does not bind to healthy tissue, as the epitopes are masked by sialylation

References