# Glycosylation analysis of immune-related molecules

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Stellingen behorende bij het proefschrift getiteld

**GLYCOSYLATION ANALYSIS OF IMMUNE-RELATED MOLECULES**

1. A comprehensive understanding of N-glycosylation of immune-related proteins in different physiological and pathological contexts is essential for further elucidating the complex mechanisms underlying antibody-mediated immune responses and immune-related disorders. (*this thesis*)
2. The spleen has an as yet unrecognized role in generation and maintenance of afucosylated IgG responses. (*this thesis*)
3. Integration of glycan-based markers, such as IgG N-glycans, with established clinical markers into multimarker panels can enhance diagnostic specificity and sensitivity, addressing clinical needs. (*this thesis*)
4. While a single LC-MS method for FcγRIIIb N-glycosylation profiling provides comprehensive characterization of site-specific N-glycosylation, is not suitable to capture the full complexity of the glycan moieties. The integration of orthogonal techniques is needed for full structural elucidation. (*this thesis*)
5. IgG glycosylation as a stand-alone biomarker of health and disease should be considered with caution, as many IgG glycosylation features relate to general aspects of immunity and inflammation rather than disease-specific processes.
6. The longitudinal tracking of glycans can provide valuable information for monitoring treatment response and predicting disease relapse, underscoring their significance in personalized medicine approaches.
7. Non-mass spectrometry-based platforms, such as immunoassays and plate-based assays, offer simplified and cost-effective alternatives for clinical utility of glycan-based markers, overcoming barriers associated with MS-based methods.
8. Protein-specific and site-specific glycosylation analysis can enhance the specificity and sensitivity of glycan-based markers derived from plasma samples.
9. The experimental method or workflow does not have to be perfect; it needs to work. However, it is crucial to identify its flaws and try to make it better next time.
10. Conducting a research is like peeling an onion – every layer reveals more layers underneath (Ruderman, M. A., & Rosenfeld, A. H. (1960). An explanatory statement on elementary particle physics. *American scientist*, *48*(2), 209–217).
11. The power of question goes far beyond exchanging information.
12. Supervision brings out the best not only in the trainee, but also in the trainer.