

The relation between antibody structure and function

Our research focusses on the relation between the structure of IgG molecules and the effect on cellular processes in the background of potential pharmaceutical application. More specifically, we are interested in investigating the effect of certain amino acid alterations in the Fc part of IgG molecules of different antibody subclasses. Hereby, we want to shed light on the question if these mutation might lead to structural changes of the Fc part, thereby affecting cellular processes. This includes Fc-receptor mediated functions such as transport-mechanisms and effector functions such as phagocytosis, antibody-dependent cellular cytotoxicity and complement activity.

Techniques

- Cloning/ Bacterial culture
- Antibody production and purification
- Quality control of antibodies as size exclusion and affinity chromatography
- Cell culture procedures
- Cellular assays (potentially ADCC, ADCC, CDC, IgG recycling)
- FACS

The project is designed for a duration of least six month from beginning of March 2019 on with some flexibility. We are looking for a motivated and social Master student, who has in best case already gained some practical experience in the lab and is willing to work independently. We offer an inspiring and interesting work environment, well equipped laboratory facilities as well as direct and uncomplicated supervision. Applications should contain a CV as well as a motivational letter and can be addressed to Dr. Gestur Vidarsson (g.vidarsson@sanquin.nl) and Maximilian Brinkhaus (m.brinkhaus@sanquin.nl).