Jan Terje Andersen

Title: Design of antibodies for half-life extension

Abstract: The half-life of the two most abundant proteins in blood, IgG and serum albumin, is extraordinary and roughly 3 weeks in humans. This phenomenon secures a broad biodistribution throughout the body of both molecules. The long half-life has made IgG the natural choice for engineering of antibody-based therapeutics, while albumin is increasingly used as a fusion partner or carrier of drugs. Remarkably, the half-life of these two unrelated proteins has been shown to be prolonged by a cellular recycling pathway mediated by a common cell-bound receptor named FcRn. I will discuss how in-depth knowledge about how FcRn binds its ligands has guided design of monoclonal antibodies with altered half-life and tissue localization, which are features that are attractive when antibodies are used for prophylaxis and therapy.

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