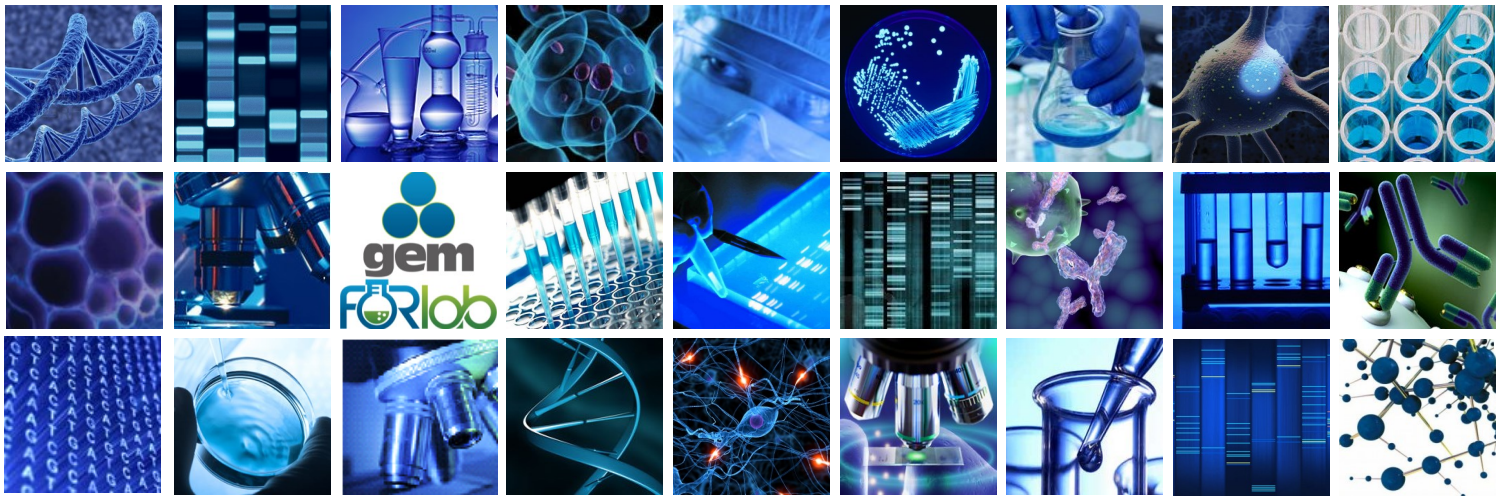

Identification of non-specific binding proteins of a therapeutic antibody

Aim of the study

Binding of therapeutic antibodies to proteins other than the target, can lead to altered pharmacokinetics and off-site toxicity. We assessed whether a therapeutic antibody could non-specifically bind any proteins present in human blood. The results of this analysis were to be inserted in the pharmaceutical registration dossier.

Drug

Therapeutic mouse monoclonal antibody

Methodology

Identity of non specific binding partners of the therapeutic antibody was carried out by immunoprecipitation of proteins from human plasma, using agarose beads covalently bound to the therapeutic antibody. Moreover, we verified whether the identified binding proteins interfered with the pharmacokinetic quantification method, by ELISA quantification of the therapeutic antibody after its incubation in plate with pre-adsorbed human plasma proteins.

System Human plasma

Therapeutic area Organ transplantation

Development stage Clinical

Customer A pharmaceutical company focused on the development of orphan drugs.

Results

Proteins binding the therapeutic antibody non-specifically were identified by immunoprecipitation from human plasma pool. Interference of binding proteins with the pharmacokinetic quantification method was excluded.

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