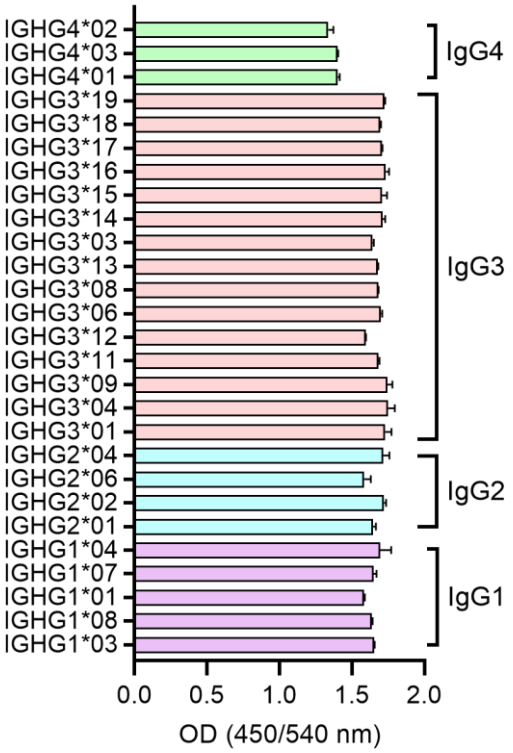
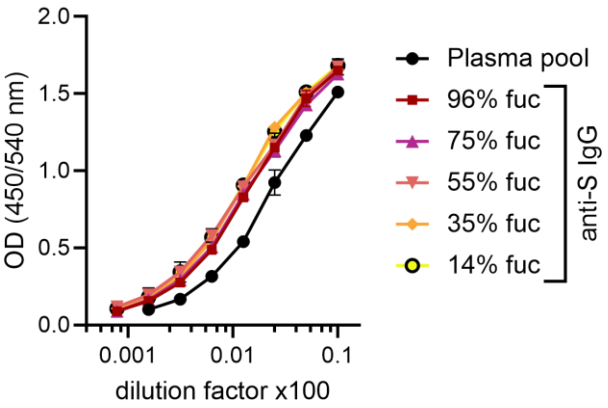


Figure S1. Sensitivity of the anti-IgG secondary antibody (used in the IgG ELISA) to allotypes of all four IgG subclasses. The allotypes used were described previously by de Taeye et al. *Front. Immunol.* 2020 (ref. 42). Error bars represent standard deviation of two measurements.

a



b

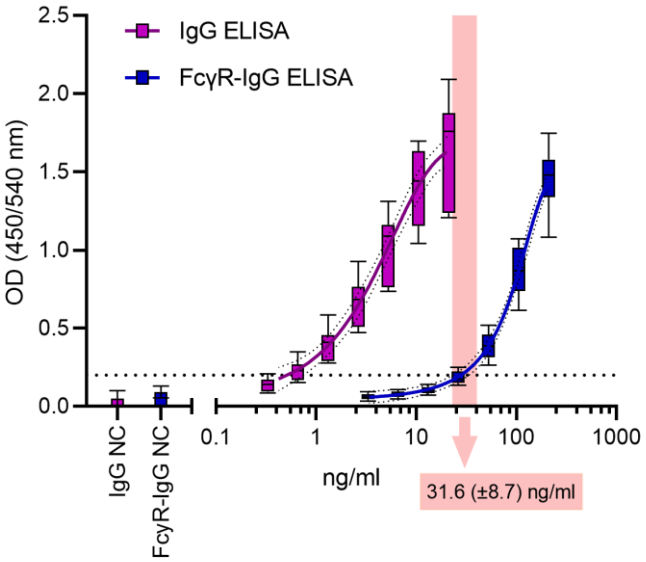


Figure S2. Sensitivity of the FEASI assay. a. Titrations of the anti-S recombinant IgG variants and their mixes with the plasma pool that was used as calibrator in this study. Two-fold dilutions are shown starting at 40 ng/ml for glycoengineered recombinant IgG and 1:1000 for the plasma pool. Error bars represent standard deviation of three measurements. **b.** Negative control (NC) samples were measured in the IgG and the FcγR-IgG ELISA. The horizontal dotted line represents the lower limit of detection, which was set three standard deviations above the mean of the NC samples in the FcγR-IgG ELISA. Shown is the titration of the COVID-19 plasma pool with both the IgG and the FcγR-IgG ELISA. Box and whiskers plot represent data from 12 independent experiments.

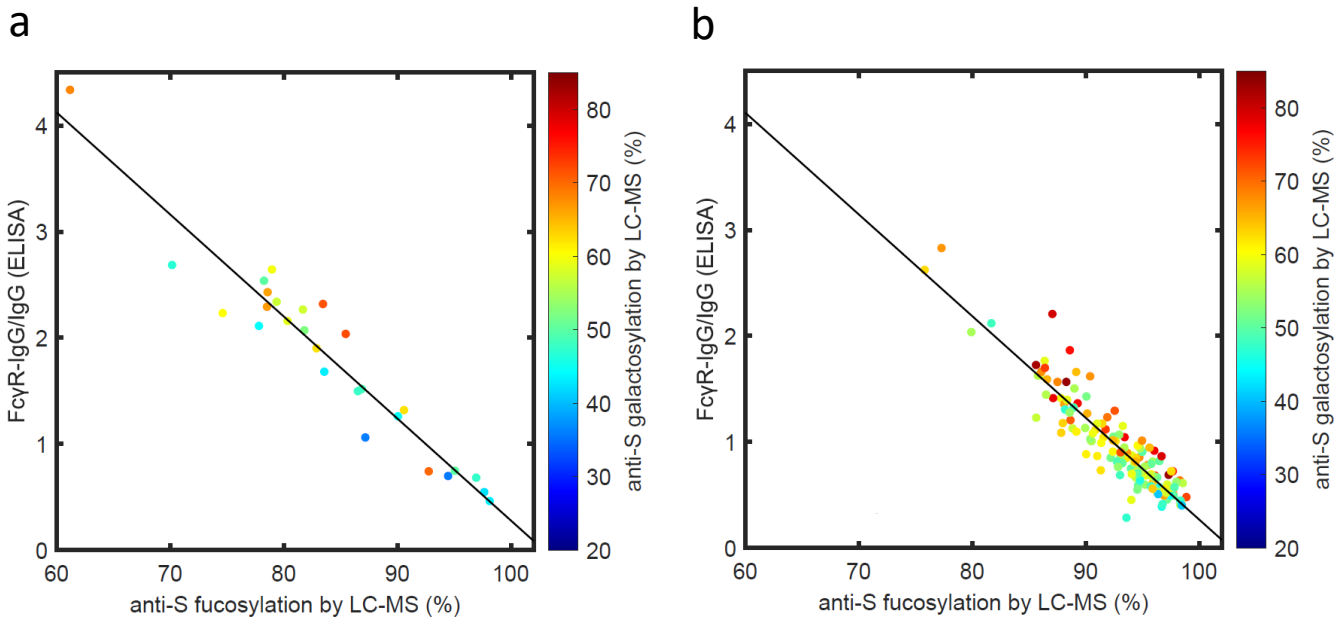


Figure S3. Influence of galactosylation on FEASI ratio. a, Linear regression model for the ratio of the FcγR-IgG and the IgG ELISA done on plasma from COVID-19 ICU patients (n=27) and **b**, convalescent blood donors (n=145) compared to anti-S IgG Fc fucosylation percentage as determined by LC-MS. Red and orange colors indicate samples with high galactose (>60%), according to the indicated color scale.

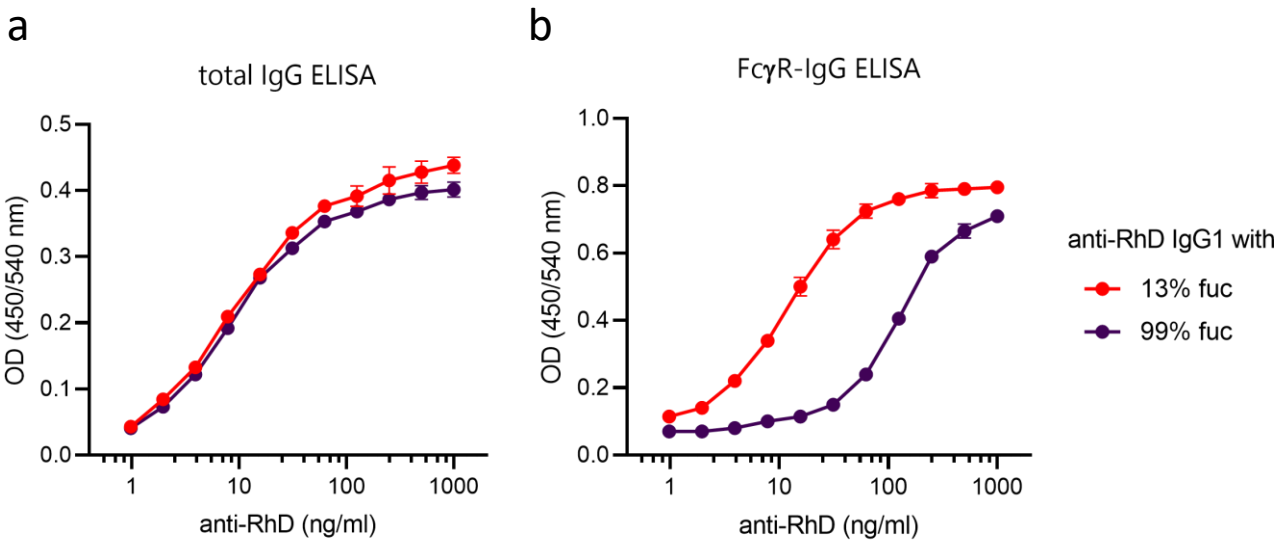


Figure S4. Total IgG Fc fucosylation analysis by dual ELISA approach. a, Recombinant anti-RhD monoclonal IgG1 antibody glycoengineered to contain high and low levels of fucose probed with the anti-IgG, and **b,** the FcγR-IgG ELISA. Error bars represent standard deviation of three measurements.