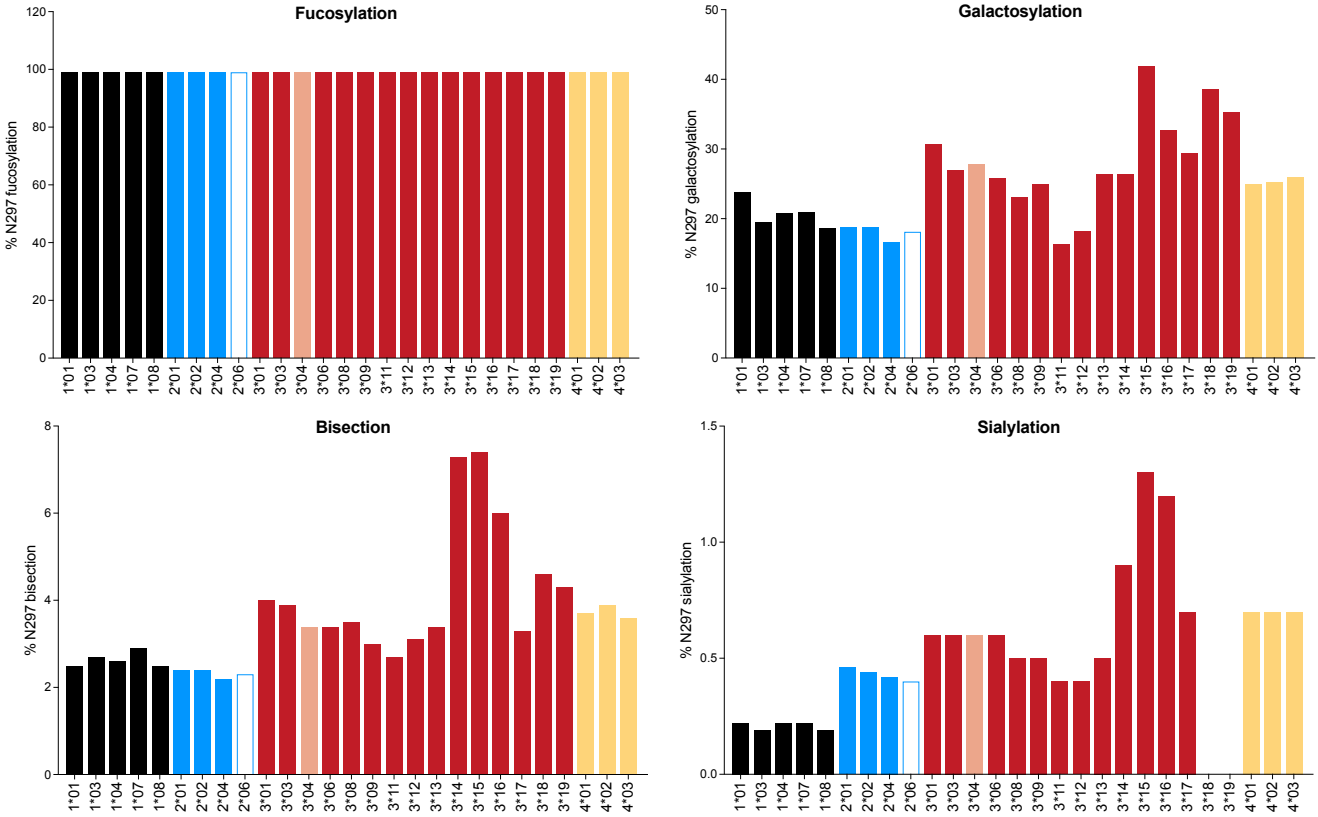
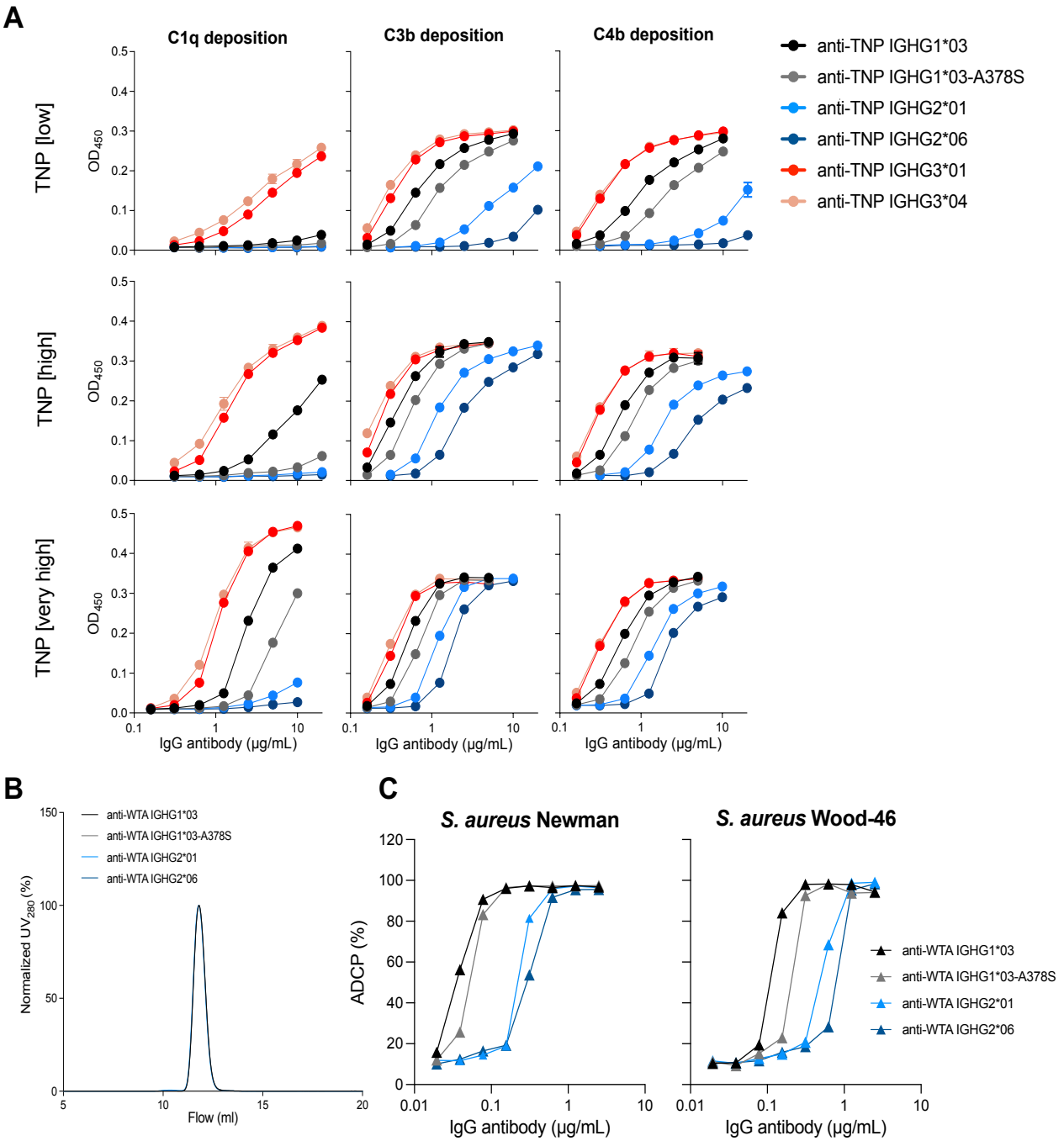
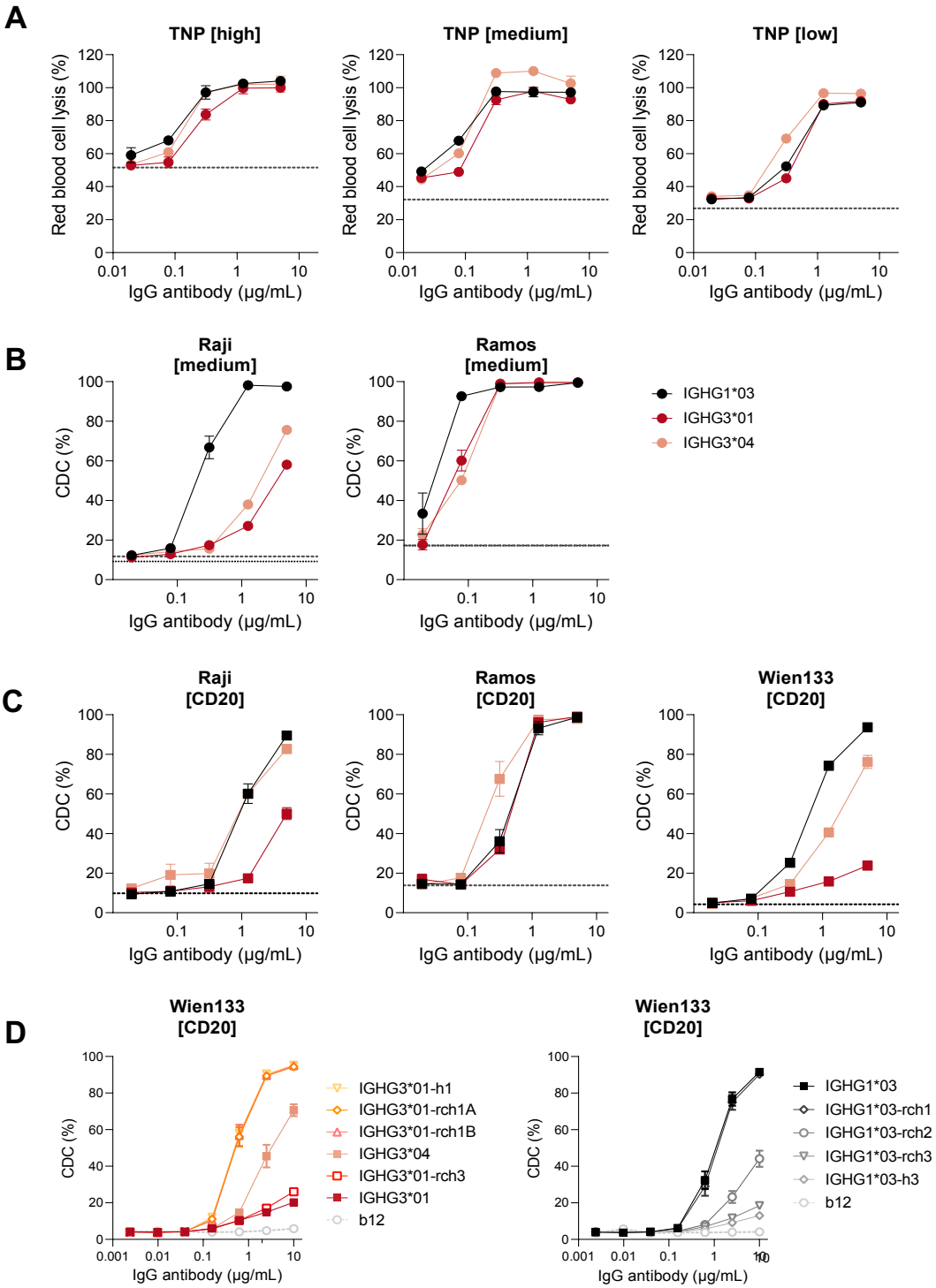


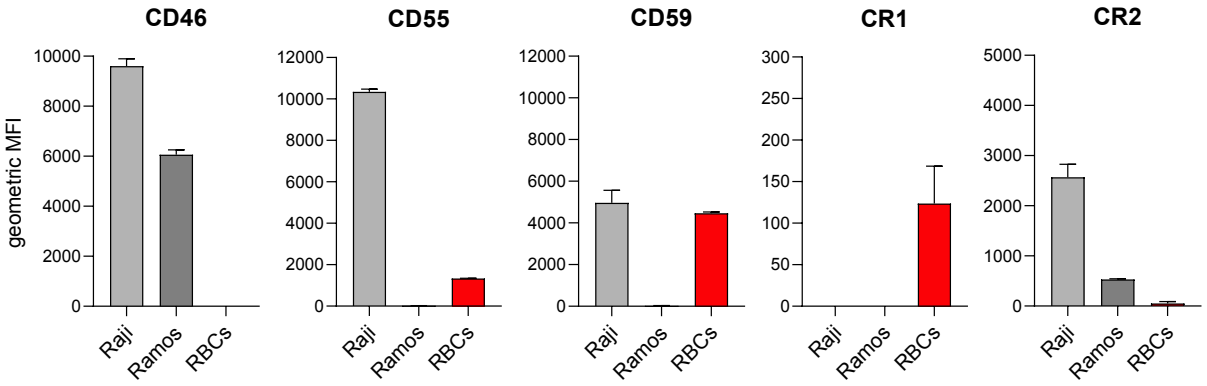
SI Figure 1 Glycosylation profile of the *N*-linked glycan at position 297 of all anti-trinitrophenyl (TNP) allotypes was determined by mass spectrometry. The percentage of fucosylation, galactosylation, bisection and sialylation is shown. Black bars represent IgG1 allotypes, blue bars IgG2 allotypes, red bars IgG3 allotypes and yellow bars IgG4 allotypes.



SI Figure 2 (A) Complement deposition (C1q, C4b, C3b) induced by six anti-trinitrophenyl (TNP) antibodies, IGHG1*03 (black), IGHG1*03-A378S (grey), IGHG2*01 (dark blue), IGHG2*06 (light blue), IGHG3*01 (red), and IGHG3*04 (pink) as determined in a complement ELISA with three different TNP antigen densities (0.33 mM [low], 1 mM [high], 3 mM [very high] TNBS). A different concentration range was chosen for each IgG subclass, based on complement activation capacity. All samples were tested in duplicates. **(B)** Size exclusion chromatogram of protein A purified anti-wall teichoic acid (WTA) antibodies. For each individual UV_{280} chromatogram, the highest peak value was set to 100%. **(C)** Antibody-dependent cellular phagocytosis (ADCP) by neutrophils of *Staphylococcus aureus* bacteria (Newman spa/sbi KO left panel, Wood-46 right panel) opsonized with different anti-WTA IGHG1*03 (black), IGHG1*03-A378S (grey), IGHG2*01 (dark blue), IGHG2*06 (light blue) antibodies.



SI Figure 3 (A) CDC activity of IGHG1*03 (black), IGHG3*01 (long hinge, red) and IGHG3*04 (short hinge, pink) specific to TNP on RBCs at various antigen densities of 0.25 mM [low], 0.5 mM [medium], and 1 mM [high] TNBS in presence of 50% serum. **(B)** CDC activity of same anti-TNP antibodies was determined on Raji and Ramos B cells at an antigen density of 0.5 mM [medium] TNBS in presence of 50% serum. Negative controls are shown as dotted line for TNP unlabeled cells and dashed line represents TNPylated cells in absence of antibodies. Data represent mean ± SEM of N=2. **(C)** CDC activity of anti-CD20 IGHG1*03, IGHG3*01 and IGHG3*04 of Raji, Ramos and Wien133 cells. All allotypes were tested in duplicates in a four-fold serial dilution starting at 5 µg/mL in presence of 50% serum. The dashed grey line represents cells without any IgG antibodies. **(D)** Matched set of natural IGHG3, IGHG1 and hinge mutants representing a range of hinge-lengths (IgG3: from yellow to dark red and IgG1: from black to light grey). Anti-HIV-1 gp120 clone b12 is used as negative control. Data represent mean ± SEM of N=3.



SI Figure 4 Expression of complement regulators CD46, CD55, CD59, CR1 and CR2 on Raji cells, Ramos cells and red blood cells as determined with flow cytometry.