Fig. 5. Amino-acid sequences of the heavy (SEQ ID NOS 1-4) and light (SEQ ID NOS 5-8) chains of antibody S77 Fab fragment. Indicated in red are the residues that are in close contact with C3b.

~~**Fig. 6.**~~ Binding affinity of the parent antibody YW144.2.43 Fab and its affinity matured version: 144.2.43.S77 Fab (S77 Fab).

~~**Fig. 7.**~~ SPR sensograms and S77 binding affinity to C3 and C3b.

~~**Fig. 8.**~~ S77 recognizes C3b, but not the pro-molecule C3. Purified C3b or C3 were captured in microtiter plates using a polyclonal C3 antibody. Binding of S77 (A) or a polyclonal anti C3 antibody (B) to captured C3b or C3 was determined using a secondary HRPO-conjugated antibody. Color was developed with TMB (KPL), stopped in 2N H_2SO_4 and absorbance read at 450 nm.

~~**Fig. 9.**~~ IgG antibody S77 selectively inhibits the alternative- but not classical- pathway of complement. Rabbit erythrocytes and sheep erythrocytes were incubated in C1q- and factor B-depleted serum and hemolysis monitored in the presence of increasing concentration of inhibitor or control protein. Hemolysis was expressed as the percentage of maximal hemolysis in the absence of inhibitor.

Fig. 10. Affinity-matured S77 Fab inhibits alternative pathwayof complement.

Fig. 11. C3b Fab (S77) inhibits C5 convertase. C5 convertase was performed as described (Rawal, N and Pangburn, M. *J Immunol.* 2001 Feb 15;166(4):2635-42).

Fig. 12. IgG antibody S77 and its Fab fragment inhibit the C5 convertase by blocking binding of C5 to C3b, the non-catalytic subunit of the convertase. C5 in the presence of increasing concentrations of inhibitor was added to plates coated with C3b. C5 binding to the C3b multimers

Fig. 13. S77 does not decay the convertase, in contrast to Factor H. A decay assay was performed by generation of a plate-coated C3 convertase in the presence of increasing concentrations of S77 or Factor H (positive control).

~~**Fig. 14.**~~ S77 inhibits binding of pro-factor B to C3b, and inhibits formation of the C3bBb convertase.

~~**Fig. 15.**~~ S77 can bind C3b in the presence of bound fBb and does not decay the C3 convertase.

~~**Fig. 16.**~~ S77 inhibits factor H binding to C3b and inhibits factor H co-factor activity.

Fig. 17. S77 inhibits CR1 binding to C3b.

Figs. 18A and 18B. Amino acid sequences of anti-HER2 antiobdy rhuMAB 4D5-8 light (SEQ ID NO: 13) and heavy (SEQ ID NO: 14) chain variable regions.

Supplemental Fig. 1. Residues on C3b in contact with the HC and LC of S77 Fab (Residues 833-839 encompass SEQ ID NO: 15; Residues 895-899 encompass SEQ ID NO: 16).

Supplemental Fig. 2. Residues on S77 Fab in contact with C3b (Residues 1030-1033 encompass SEQ ID NO: 17; Residues 1098-1107 encompass SEQ ID NO: 18).

Fig. 5. Amino-acid sequences of the heavy (SEQ ID NOS 1-4) and light (SEQ ID NOS 5-8) chains of antibody S77 Fab fragment. Indicated in red are the residues that are in close contact with C3b.

Figs. 6A and 6B. Binding affinity of the parent antibody YW144.2.43 Fab and its affinity matured version: 144.2.43.S77 Fab (S77 Fab).

Figs. 7A, 7B and 7C. SPR sensograms and S77 binding affinity to C3 and C3b.

Figs. 8A and 8B. S77 recognizes C3b, but not the pro-molecule C3. Purified C3b or C3 were captured in microtiter plates using a polyclonal C3 antibody. Binding of S77 (A) or a polyclonal anti C3 antibody (B) to captured C3b or C3 was determined using a secondary HRPO-conjugated antibody. Color was developed with TMB (KPL), stopped in 2N H_2SO_4 and absorbance read at 450 nm.

Figs. 9A, 9B and 9C. IgG antibody S77 selectively inhibits the alternative- but not classical- pathway of complement. Rabbit erythrocytes and sheep erythrocytes were incubated in C1q- and factor B-depleted serum and hemolysis monitored in the presence of increasing concentration of inhibitor or control protein. Hemolysis was expressed as the percentage of maximal hemolysis in the absence of inhibitor.

Fig. 10. Affinity-matured S77 Fab inhibits alternative pathwayof complement.

Fig. 11. C3b Fab (S77) inhibits C5 convertase. C5 convertase was performed as described (Rawal, N and Pangburn, M. *J Immunol.* 2001 Feb 15;166(4):2635-42).

Fig. 12. IgG antibody S77 and its Fab fragment inhibit the C5 convertase by blocking binding of C5 to C3b, the non-catalytic subunit of the convertase. C5 in the presence of increasing concentrations of inhibitor was added to plates coated with C3b. C5 binding to the C3b multimers

Fig. 13. S77 does not decay the convertase, in contrast to Factor H. A decay assay was performed by generation of a plate-coated C3 convertase in the presence of increasing concentrations of S77 or Factor H (positive control).

Figs.14A and 14B. S77 inhibits binding of pro-factor B to C3b, and inhibits formation of the C3bBb convertase.

Fig. 15A and 15B. S77 can bind C3b in the presence of bound fBb and does not decay the C3 convertase.

Fig. 16A and 16B. S77 inhibits factor H binding to C3b and inhibits factor H co-factor activity.

Fig. 17. S77 inhibits CR1 binding to C3b.

Figs. 18A and 18B. Amino acid sequences of anti-HER2 antiobdy rhuMAB 4D5-8 light (SEQ ID NO: 13) and heavy (SEQ ID NO: 14) chain variable regions.

Supplemental Fig. 1. Residues on C3b in contact with the HC and LC of S77 Fab (Residues 833-839 encompass SEQ ID NO: 15; Residues 895-899 encompass SEQ ID NO: 16).

Supplemental Fig. 2. Residues on S77 Fab in contact with C3b (Residues 1030-1033 encompass SEQ ID NO: 17; Residues 1098-1107 encompass SEQ ID NO: 18).