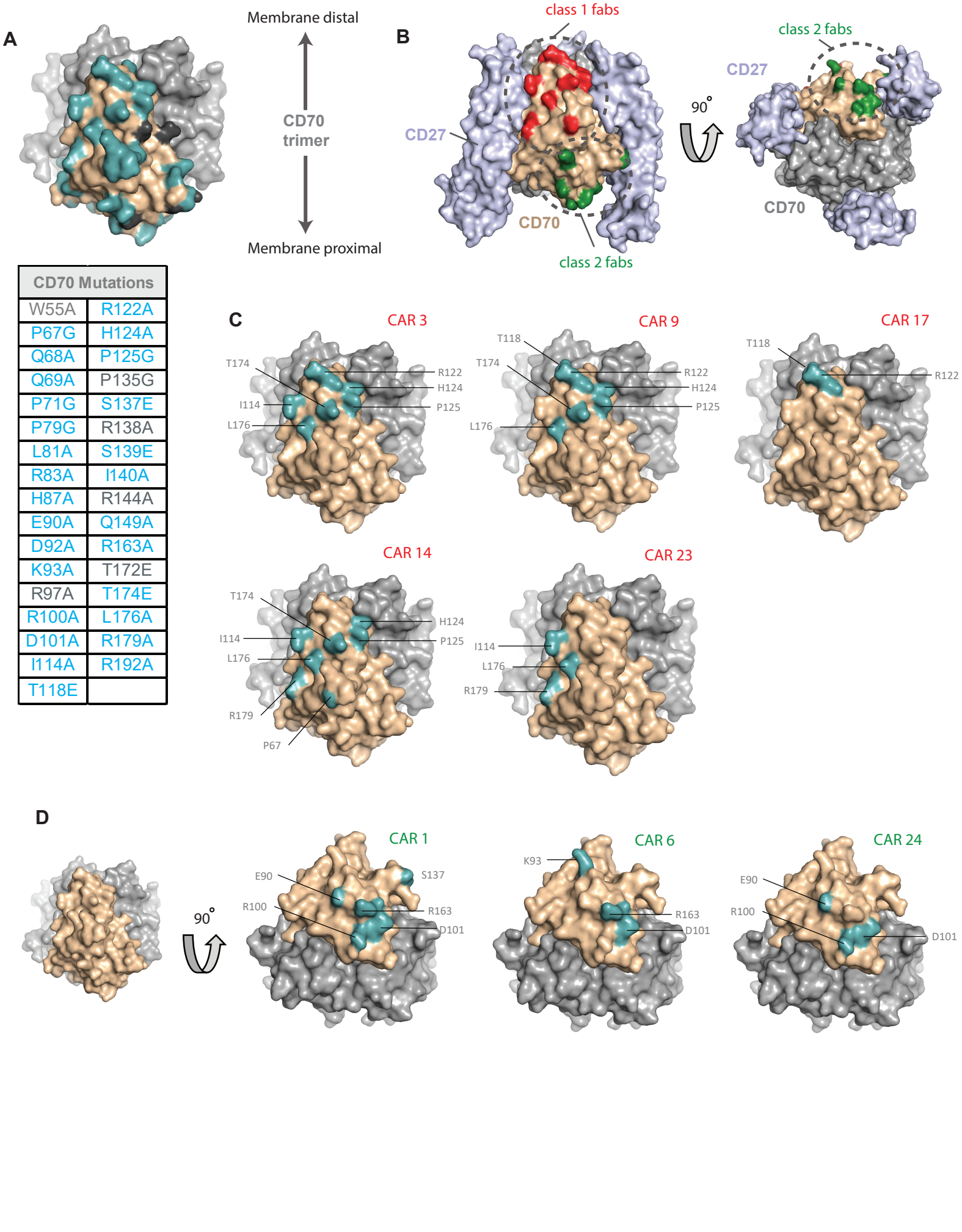
Fig. S3

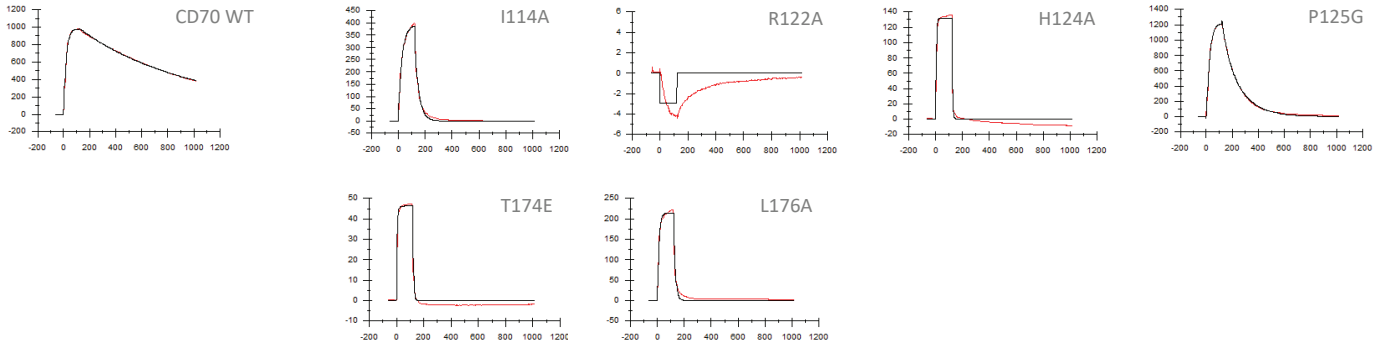


CD70 Mutations	
W55A	R122A
P67G	H124A
Q68A	P125G
Q69A	P135G
P71G	S137E
P79G	R138A
L81A	S139E
R83A	I140A
H87A	R144A
E90A	Q149A
D92A	R163A
K93A	T172E
R97A	T174E
R100A	L176A
D101A	R179A
I114A	R192A
T118E	

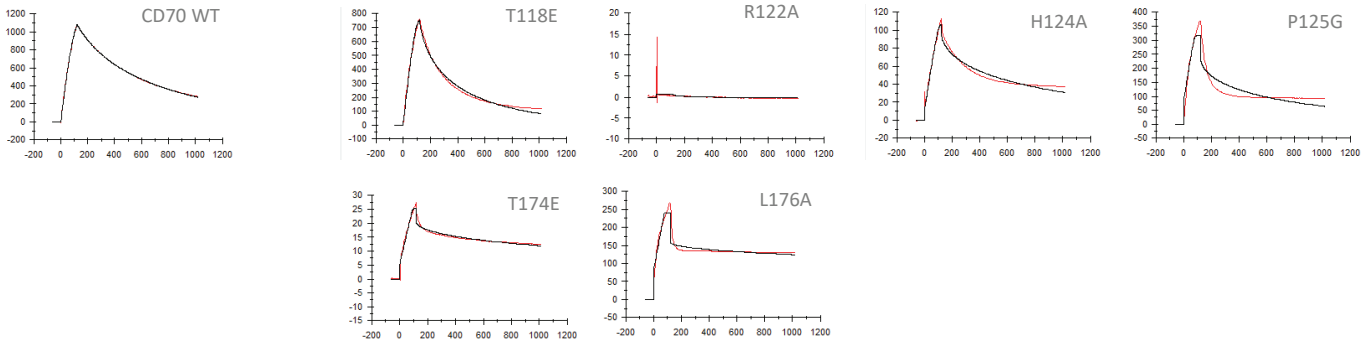
Fig. S3 continued

E

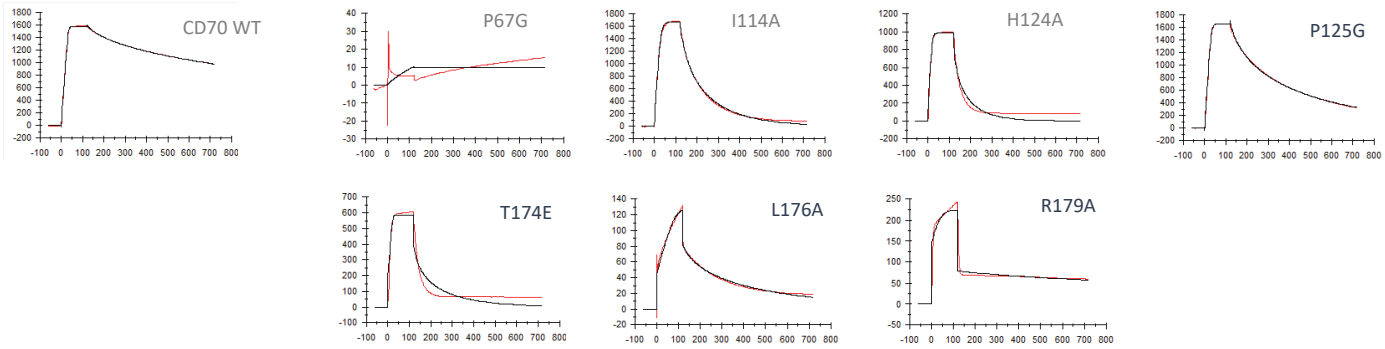
CAR 3 binding kinetics



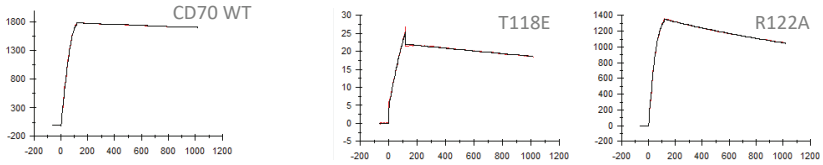
CAR 9 binding kinetics



CAR 14 binding kinetics



CAR 17 binding kinetics



CAR 23 binding kinetics

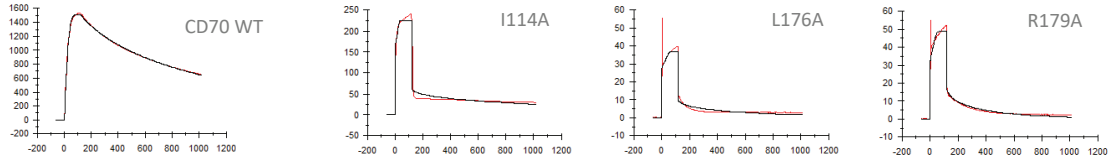


Fig. S3 continued

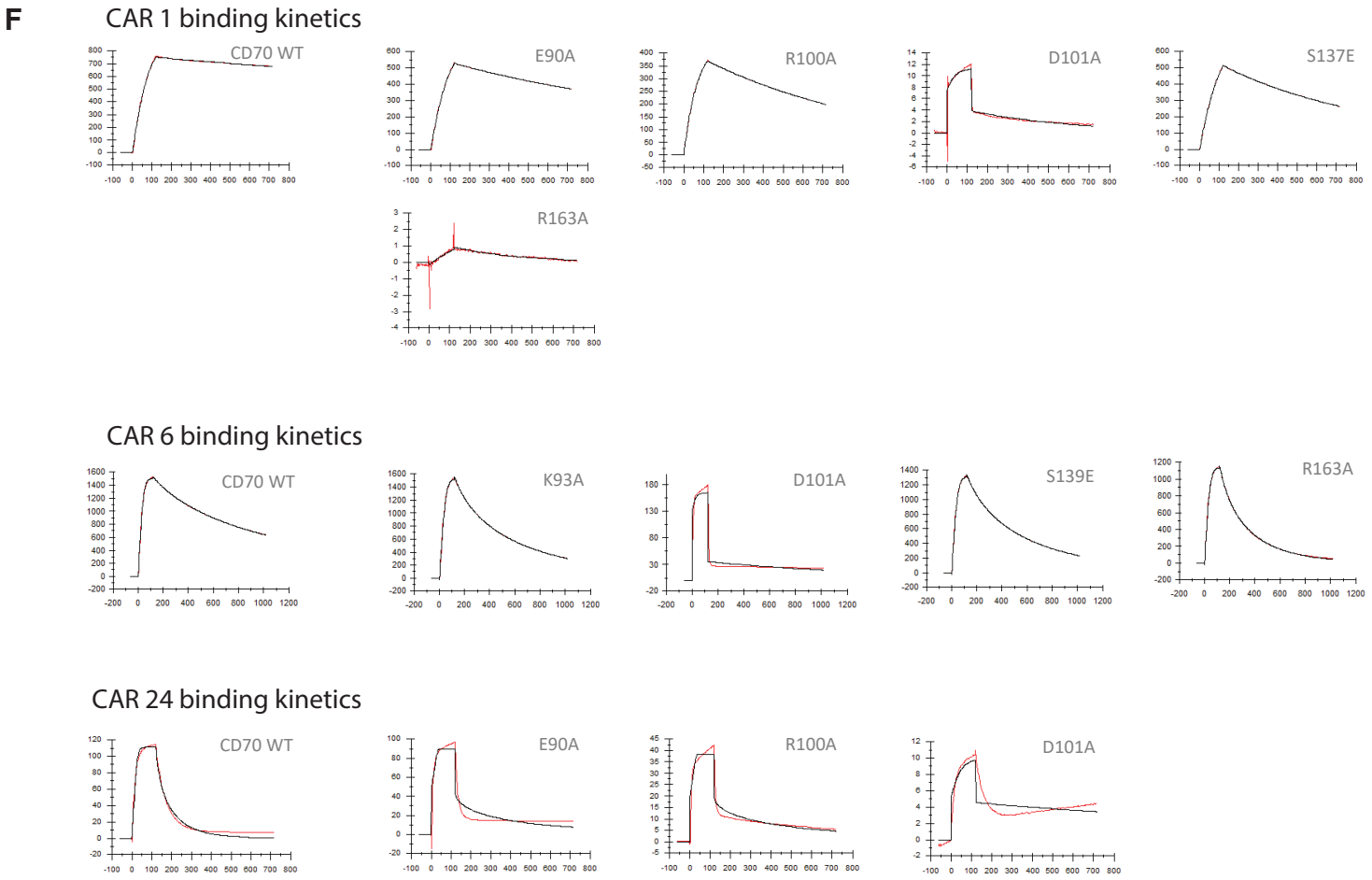


Figure S3. **A,** Thirty-three CD70 residues that are exposed on the trimer surface were mutated to the designated residue. Twenty-seven CD70 mutants expressed successfully and were used for analysis, shown in blue. Five CD70 mutants that failed expression are shown in grey. **B,** CD70 trimer is shown as solid surface with one monomer colored in wheat while bound CD27 molecules is shown in light blue. The epitope residues identified for class 1 CAR and class 2 CAR are colored in red and green, respectively **C,** Residues bound by each class 1 CAR were identified. CD70 trimer is shown as solid surface with one monomer colored in wheat. The epitope residues identified for each CAR are colored in teal. **D,** Residues bound by each class 2 CAR were identified. Structure was rotated 90 degrees vertically so as to show the membrane proximal region more clearly. Coloring is as described in **C,**. **E,** Kinetics of wild-type CD70 trimer or respective mutant trimers binding to the class 1 Fab molecule converted from the corresponding CAR sequence are shown. **F,** Kinetics of wild-type CD70 trimer or respective mutant trimers binding to the class 2 Fab molecule converted from the corresponding CAR sequence are shown.