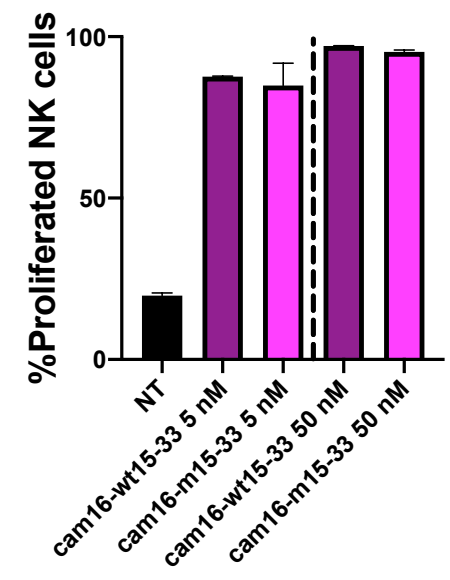
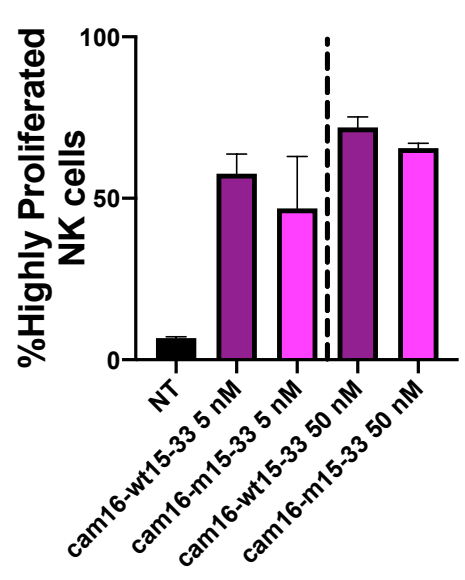


Supplementary Figure 1:

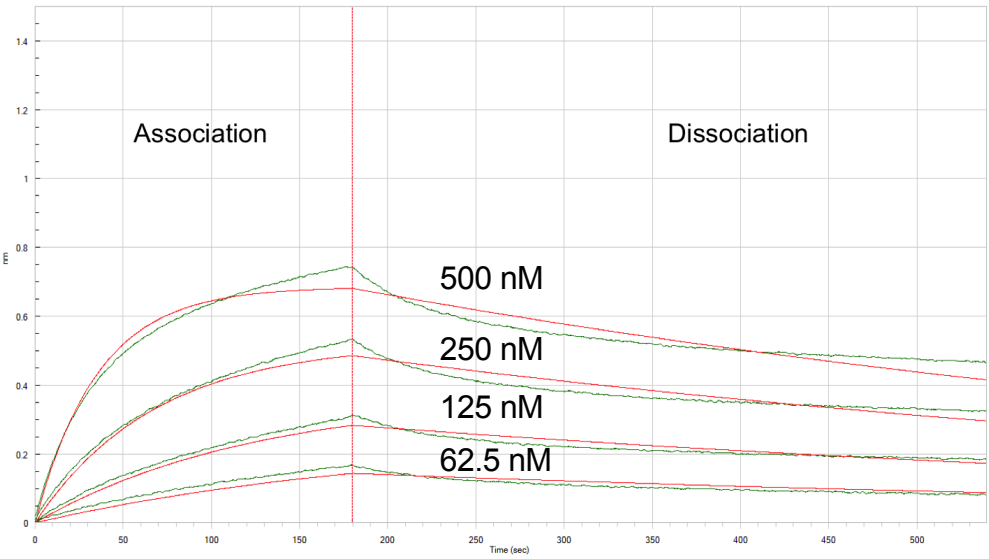
A.



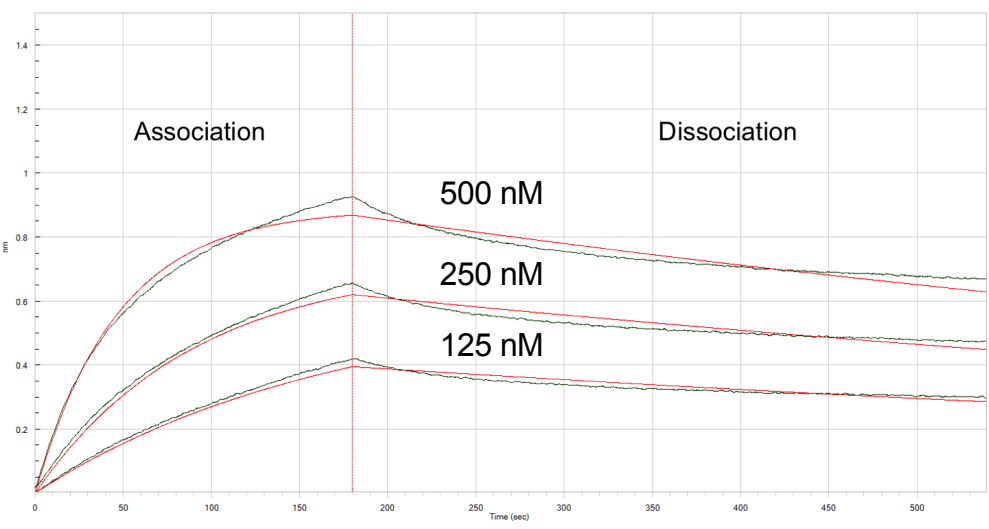
B.



C. Binding of cam16-wt15-33 to CD33 Fc

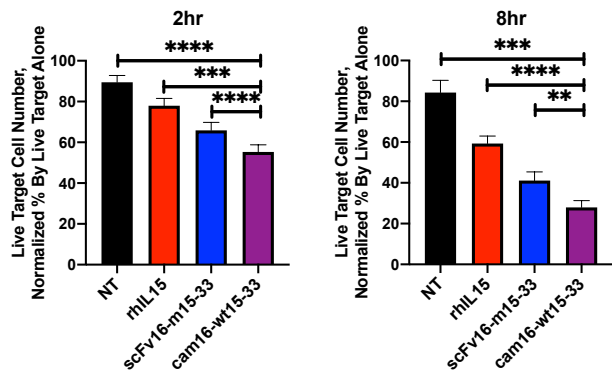


D. Binding of scFv16-m15-33 to CD33 Fc

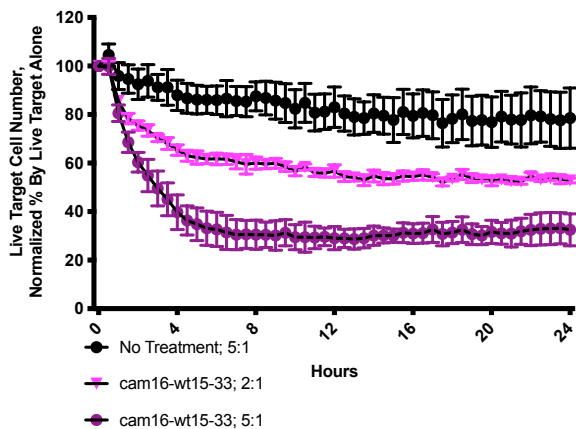


Supplementary Figure 2:

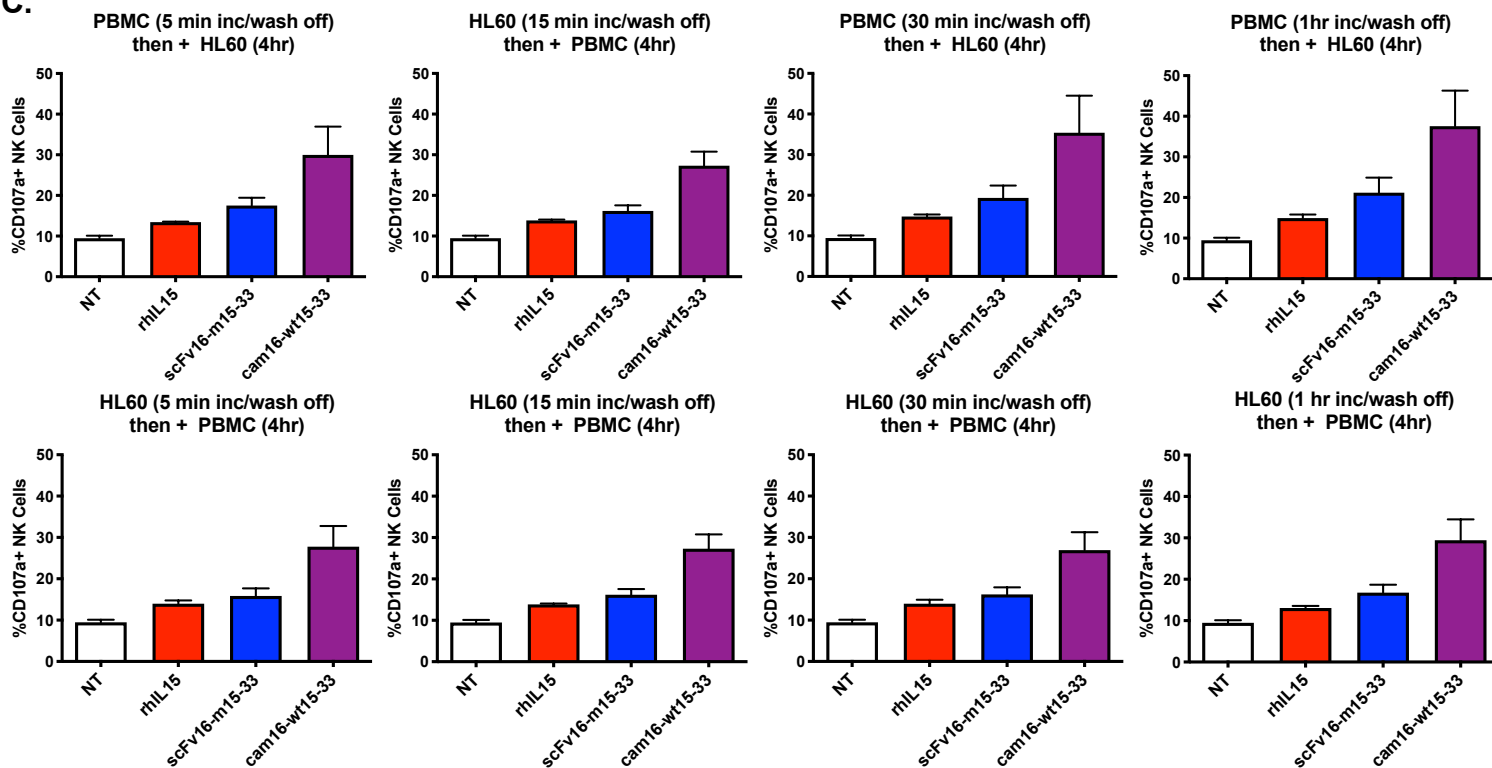
A.



B.



C.

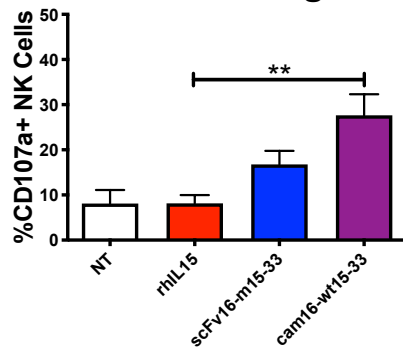


Supplementary Figure 3:

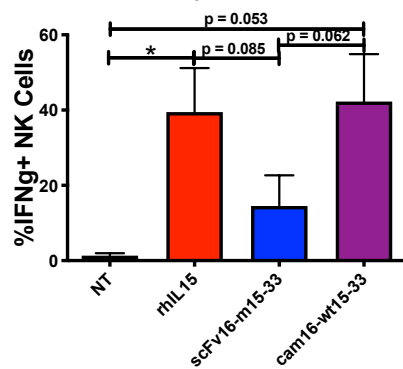
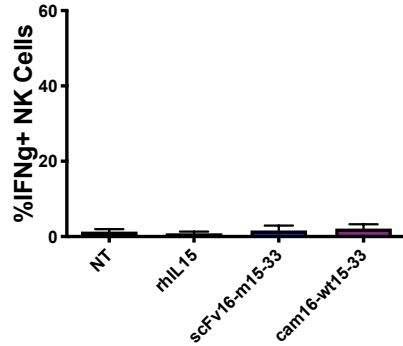
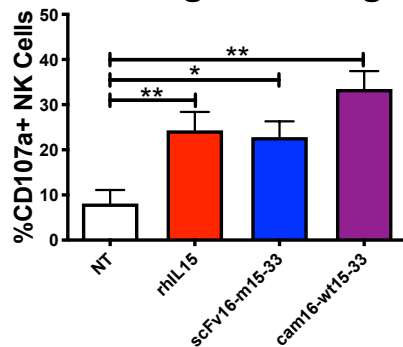
Double Umbilical Cord
Blood alloHCT (d28)

Matched Sibling Donor
alloHCT (d28)

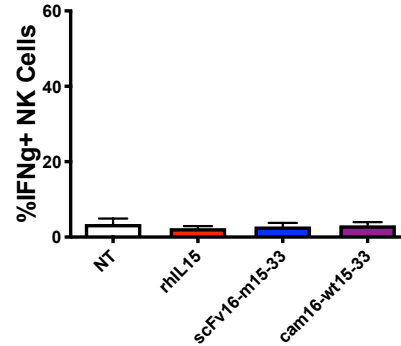
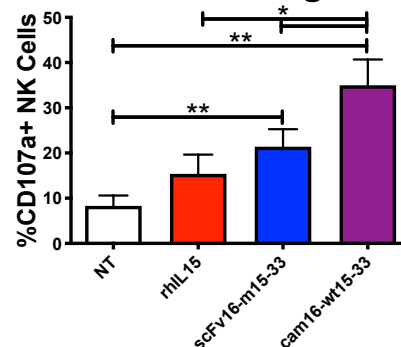
A. No Priming



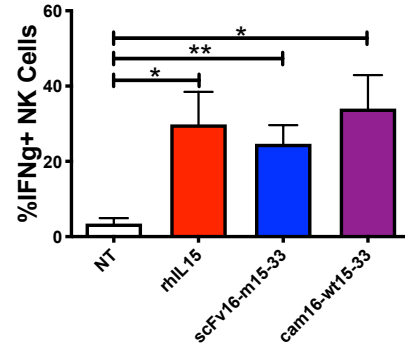
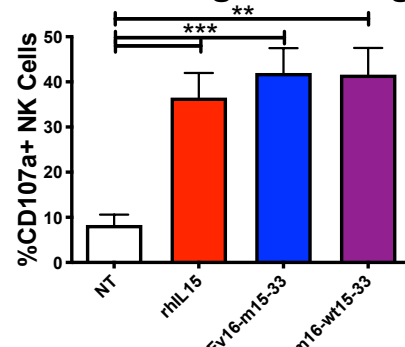
B. Overnight Priming



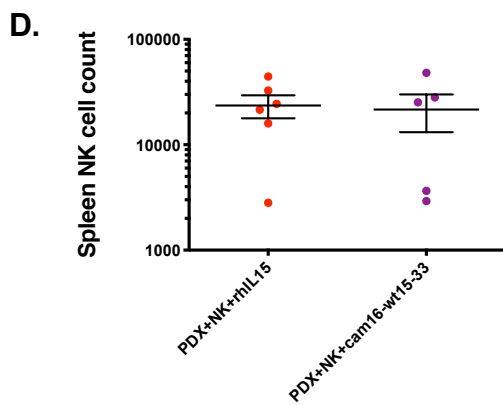
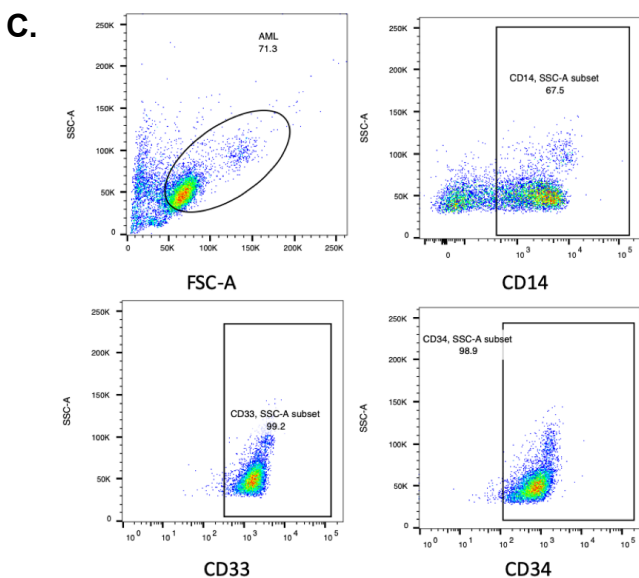
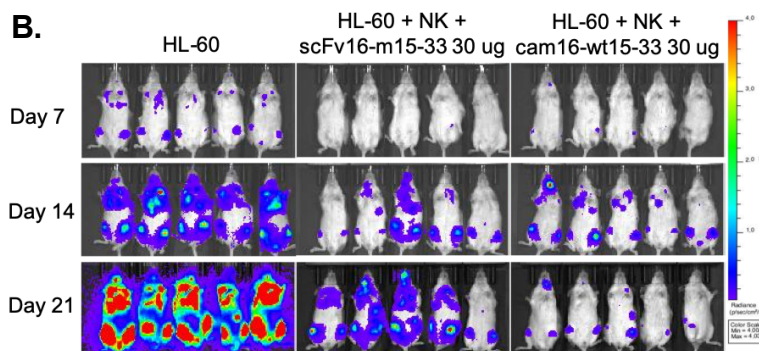
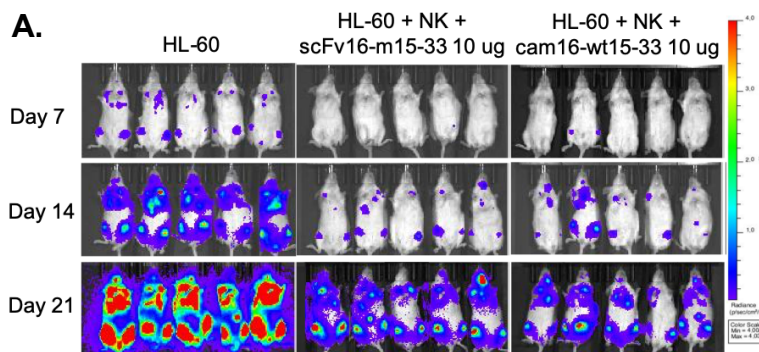
C. No Priming



D. Overnight Priming



Supplementary Figure 4:



Sample #	Graft source	Type	Conditioning	% NK (out of Lymphocytes)	%CD56bright NK	%CD56dim NK	%CD16+ NK	%NKG2A+ NK	%KIR+ NK	%CD57+ NK	ALC/ul
1	MSD	PBSC	RIC	47.1	49.4	50.6	50.1	96.1	42.3	21.75	900
2	MSD	BM	MA	13.4	39.2	60.8	31.33	86.4	24.7	18.54	1000
3	MSD	PBSC	RIC	47.8	37.1	62.9	56.87	86.8	30	30.23	400
4	MSD	PBSC	MA	44.2	68.8	31.2	46.8	89.9	15.5	17.91	900
5	MSD	BM	MA	41	16.1	83.9	77.55	89.5	27.2	43.06	800
6	MSD	BM	RIC	46.3	72.6	27.3	20.57	91.2	23.5	8.25	100
7	MSD	PBSC	RIC	48.4	17.7	82.3	73.19	88.2	30.1	51.31	1100
8	MSD	BM	MA	18.9	47.8	52.2	45.02	79	31.9	26.05	600
9	MSD	PBSC	RIC	31	55.6	44.4	48.7	83.6	23.7	26.46	900
10	dUCBT	UCB	RIC	65.1	37.2	62.8	53.62	93.5	39.6	9.44	500
11	dUCBT	UCB	RIC	55.8	13.9	85.7	66.41	85.8	66.6	30.39	900
12	dUCBT	UCB	MA	68.5	20.9	79.1	59.69	90.3	56.6	52.56	400
13	dUCBT	UCB	MA	78.7	47.8	52.2	51.6	96.9	22.1	14.72	300
14	dUCBT	UCB	RIC	60.4	32.9	67.1	64.43	92.5	41.8	28.34	600
15	dUCBT	UCB	MA	61.7	4.46	95.5	74.27	80.4	36.8	60.58	200
16	dUCBT	UCB	RIC	3.63	51.5	48.5	36.6	68.8	4.63	18.76	100
17	dUCBT	UCB	RIC	22.1	6.86	93.1	77.71	94.8	70.7	32.36	600
18	dUCBT	UCB	MA	40.4	48.7	51.3	50.2	89	33.9	31.28	100

Supplementary Table I: Patient Characteristics