

Supplemental Figures

Figure S1. KIR-Fc binding to 95 HLA allotypes. Binding assays were performed as described in Figure 3. Values for individual HLA:KIR-Fc combinations are shown. The epitope present in each HLA allotype is indicated.

Figure S2. Positions of variation in the HLA allotypes tested in the binding assay. HLA allotypes tested in the binding assay were aligned and only the polymorphic positions are shown. Allotypes were grouped by epitopes and binding differences. Position 80 is indicated in red. Bw4-I80 and positions affecting binding are indicated by green. The unique alanine-glutamine at 152-156 is shaded orange. Blue shading shows the weak Bw6 binding allotypes and the positions proposed to affect binding.

Figure S3. W6/32 binding to individual HLA allotypes.

A. Graphed are the MFI values for W6/32 binding to beads coated with one of 95 different HLA allotypes. Each value has been normalized to the highest W6/32 signal within the same binding experiment. Shown are these normalized values for 17 separate experiments performed between July, 18, 2007 and January 19, 2010. The general pattern of binding was similar for all experiments. **B.** The average and standard deviation of these normalized values, across the 17 experiments, is graphed here for each HLA class I allotype tested. **C.** The averages of the normalized MFI values, depicted in Supplemental Fig S3B, are listed here. The values have been grouped into HLA with 0-50%, 51-75%, and 76-100% of the highest binding level. Note that as the normalized values from the 17 experiments were averaged, the highest binding value is 98% for HLA-B*1501 as it was not the highest value in all 17 experiments. HLA-C*0401 is

consistently one of the lowest detected HLA class I, while the level of C*0304 binding is intermediate. However, levels of total protein detected by W6/32 do not correlate with the level of KIR-Fc binding. For example, C*1701, C*0202 and C*0501, are the strongest C2 ligands for KIR-Fc proteins and they have similar levels of W6/32 binding as C*0401.

Figure S4. Natural variation at position 44 in KIR. The first column gives the amino acids at position 44. On the right are listed the mammalian species in which a particular amino acid is present at position 44 in a KIR. An asterisk is used to distinguish KIR of the 3DX lineage from those of the 3DL lineage and a dagger indicates a pseudogene.

Figure S5. HLA class I binding of Popy2DLA and 19 position 44 mutants. Binding assays were performed as described in Figure 3. Allotypes are grouped as in Figure 6.

Supplemental Figure S1 part 1. KIR-Fc binding to 95 HLA allotypes.

KIR-Fc fusion proteins

HLA	Epitope	wild type KIR2D								2DLA mutants												
		2DL1	2DL3	2DLA	2DLB	2DSA	2DSB	2DSD1	2DSD2	13H	36H	36N	44A	44C	44D	44E	44F	44G	44H	44I	44L	44M
A*0101		0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.01
A*0201		0.00	0.00	0.00	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*0203		0.00	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01
A*0206		0.01	0.03	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*0301	A3/A11	0.01	0.01	0.09	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.03	0.01
A*1101	A3/A11	0.00	0.04	0.67	0.02	0.54	0.05	0.00	0.00	0.02	0.41	0.37	0.00	0.03	0.08	0.12	0.04	0.05	0.05	0.01	0.15	0.11
A*1102	A3/A11	0.00	0.10	1.53	0.39	1.39	1.10	0.02	0.00	0.15	1.20	1.32	0.18	0.10	0.60	0.76	0.24	0.23	0.37	0.52	0.49	0.87
A*2301	Bw4	0.01	0.01	0.14	0.01	0.08	0.01	0.00	0.00	0.00	0.05	0.06	0.00	0.04	0.01	0.04	2.65	0.06	0.15	0.11	0.95	0.76
A*2402	Bw4	0.02	0.02	0.45	0.04	0.26	0.05	0.01	0.00	0.02	0.25	0.19	0.25	0.16	0.66	0.34	2.94	0.43	0.54	0.63	1.24	1.75
A*2403	Bw4	0.01	0.02	0.36	0.05	0.62	0.05	0.01	0.00	0.01	0.20	0.15	0.12	0.22	0.50	0.31	2.91	0.32	0.42	0.54	1.40	1.76
A*2501	Bw4	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*2601		0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
A*2901		0.00	0.01	0.05	0.01	0.03	0.02	0.00	0.00	0.00	0.02	0.03	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.03	0.02
A*2902		0.01	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
A*3001		0.01	0.00	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
A*3101		0.00	0.01	0.03	0.00	0.03	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
A*3201		0.01	0.02	0.03	0.02	0.08	0.04	0.01	0.00	0.00	0.01	0.02	0.01	0.05	0.05	0.10	1.04	0.08	0.06	0.06	1.79	0.64
A*3301		0.01	0.01	0.03	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
A*3303		0.00	0.01	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01
A*3401		0.01	0.01	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
A*3601		0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.02	0.01
A*4301		0.00	0.01	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.00	0.03	0.01
A*6601		0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
A*6602		0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*6801		0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*6802		0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01
A*6901		0.00	0.01	0.02	0.02	0.02	0.01	0.02	0.00	0.00	0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.00	0.01	0.00	0.03	0.02
A*7401		0.00	0.01	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.02	0.01
A*8001		0.00	0.01	0.05	0.01	0.01	0.01	0.00	0.00	0.01	0.04	0.05	0.01	0.03	0.01	0.02	0.03	0.03	0.00	0.00	0.06	0.05
B*0702	Bw6	0.01	0.01	0.04	0.00	0.03	0.01	0.00	0.00	0.00	0.03	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01
B*0801	Bw6	0.01	0.01	0.04	0.00	0.02	0.01	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.00	0.02	0.01
B*1302	Bw4	0.02	0.01	0.02	0.01	0.05	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.04	0.01	0.01	0.04	0.04	0.00	0.00	0.04	0.01
B*1401	Bw6	0.00	0.01	0.01	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
B*1402	Bw6	0.01	0.02	0.04	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.03	0.02
B*1501	Bw6	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B*1502	Bw6	0.01	0.01	0.03	0.00	0.07	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.01
B*1503	Bw6	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.03	0.00	0.01	0.05	0.04	0.00	0.00	0.04	0.01
B*1510	Bw6	0.00	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.03	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.02	0.01
B*1512	Bw6	0.00	0.01	0.02	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
B*1513	Bw4	0.01	0.01	0.02	0.01	0.03	0.01	0.01	0.00	0.00	0.02	0.02	0.01	0.01	0.01	0.01	0.54	0.01	0.01	0.00	0.16	0.07
B*1516	Bw4	0.01	0.01	0.02	0.01	0.03	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.02	0.64	0.01	0.01	0.00	0.14	0.06
B*1801	Bw6	0.01	0.00	0.03	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B*2705	Bw4	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00
B*2708	Bw6	0.00	0.00	0.12	0.00	0.02	0.00	0.00	0.00	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
B*3501	Bw6	0.01	0.01	0.17	0.00	0.04	0.00	0.00	0.00	0.01	0.08	0.06	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01
B*3701	Bw4	0.07	0.03	0.03	0.05	0.03	0.05	0.34	0.00	0.00	0.03	0.02	0.00	0.06	0.01	0.02	0.12	0.09	0.00	0.00	0.08	0.05
B*3801	Bw4	0.01	0.01	0.15	0.01	0.08	0.01	0.00	0.00	0.01	0.07	0.06	0.01	0.06	0.02	0.06	1.50	0.11	0.08	0.17	0.72	0.50
B*3901	Bw6	0.01	0.01	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01
B*3905	Bw6	0.00	0.01	0.04	0.00	0.03	0.01	0.00	0.00	0.00	0.06	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01
B*4001	Bw6	0.02	0.01	0.20	0.00	0.13	0.00	0.00	0.00	0.01	0.08	0.06	0.00	0.13	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01
B*4002	Bw6	0.01	0.02	0.06	0.02	0.04	0.01	0.01	0.01	0.01	0.07	0.03	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.00	0.04	0.02
B*4005	Bw6	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B*4101	Bw6	0.00	0.02	0.06	0.01	0.07	0.01	0.01	0.00	0.01	0.02	0.04	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.02
B*4102	Bw6	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B*4201	Bw6	0.01	0.00	0.09	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01
B*4402	Bw4	0.01	0.01	0.01	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01
B*4403	Bw4	0.02	0.01	0.02	0.01	0.03	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.00	0.01	0.00	0.03	0.02
B*4501	Bw6	0.00																				

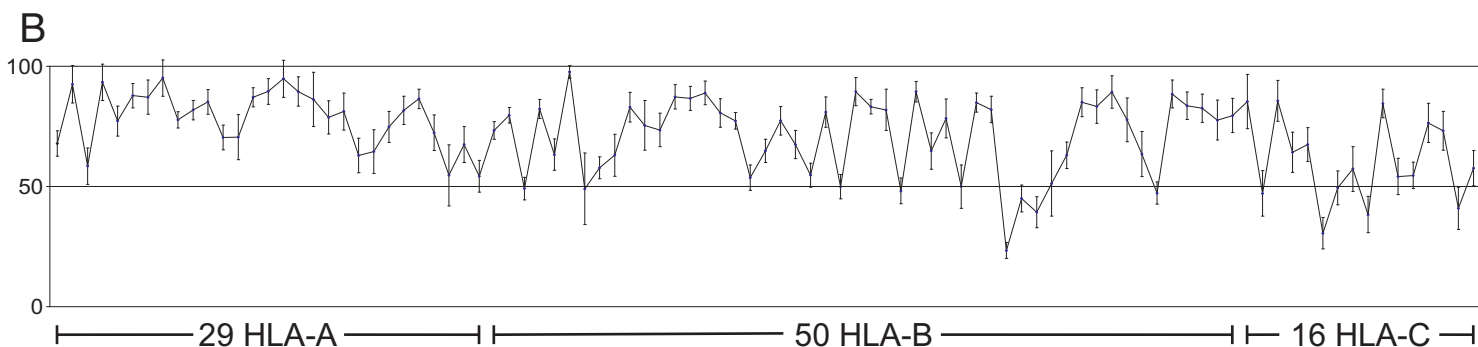
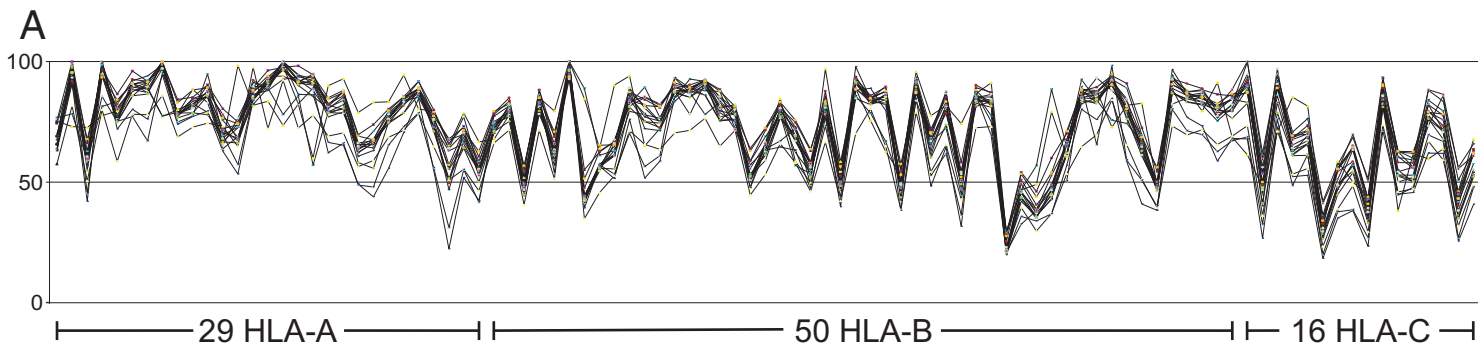
Supplemental Figure S1 part 2. KIR-Fc binding to 95 HLA allotypes.

KIR-Fc fusion proteins

2DLA mutants

HLA	Epitope	44N	44P	44Q	44R	44S	44T	44V	44W	44Y	70T	72D	84S	84T	90L	117R	123N	143E	143Q	145A	145S	148C	148R	165T
A*0101		0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
A*0201		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*0203		0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
A*0206		0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*0301	A3/A11	0.00	0.01	0.00	0.01	0.01	0.00	0.02	0.02	0.04	0.01	0.00	0.01	0.01	0.02	0.10	0.00	0.02	0.02	0.01	0.05	0.00	0.03	0.01
A*1101	A3/A11	0.03	0.13	0.08	0.20	0.01	0.00	0.08	0.03	0.00	0.10	0.08	0.12	0.11	0.08	0.67	0.04	0.48	0.51	0.07	0.49	0.01	0.67	0.14
A*1102	A3/A11	0.42	0.44	0.54	0.91	0.08	0.03	0.61	0.08	0.05	0.43	0.59	1.06	0.82	0.64	1.55	0.24	1.61	1.90	0.48	1.37	0.03	1.42	0.85
A*2301	Bw4	0.01	0.23	0.13	0.03	0.01	0.01	0.15	0.80	1.11	0.01	0.00	0.04	0.05	0.04	0.16	0.02	0.10	0.10	0.01	0.10	0.01	0.17	0.03
A*2402	Bw4	0.36	0.50	0.62	0.44	0.20	0.12	0.80	1.56	1.72	0.08	0.00	0.15	0.16	0.18	0.33	0.14	0.31	0.29	0.05	0.30	0.05	0.34	0.11
A*2403	Bw4	0.22	0.49	0.53	0.29	0.08	0.07	0.64	1.70	1.65	0.06	0.00	0.13	0.19	0.15	0.38	0.11	0.29	0.26	0.04	0.23	0.04	0.32	0.10
A*2501	Bw4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*2601		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*2901		0.01	0.01	0.00	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.00	0.01	0.01	0.03	0.04	0.01	0.02	0.03	0.01	0.05	0.01	0.03	0.01
A*2902		0.00	0.00	0.01	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.01	0.03	0.00	0.00	0.00
A*3001		0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00
A*3101		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.03	0.01	0.03	0.00	0.00	0.01
A*3201		0.02	0.14	0.04	0.02	0.02	0.01	0.10	0.36	0.15	0.02	0.00	0.01	0.01	0.06	0.01	0.01	0.02	0.03	0.02	0.04	0.00	0.01	0.01
A*3301		0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.03	0.02	0.00	0.01	0.02	0.01	0.03	0.00	0.01	0.01
A*3303		0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.07	0.01	0.02	0.03	0.01	0.06	0.00	0.04	0.01
A*3401		0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01
A*3601		0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.00	0.01	0.01	0.02	0.01	0.01	0.03	0.01	0.00
A*4301		0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.02	0.02	0.01	0.00	0.01	0.01	0.02	0.04	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.01
A*6601		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00
A*6602		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*6801		0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A*6802		0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.00	0.01	0.01	0.02	0.00	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.01
A*6901		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.00	0.01	0.01	0.03	0.05	0.02	0.02	0.04	0.01	0.04	0.03	0.03	0.01
A*7401		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.04	0.01	0.03	0.04	0.01	0.07	0.01	0.08	0.01
A*8001		0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.04	0.11	0.02	0.03	0.04	0.01	0.07	0.04	0.10	0.01
B*0702	Bw6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.04	0.00	0.01	0.01	0.02	0.03	0.01	0.01	0.02	0.01	0.04	0.01	0.04	0.01
B*0801	Bw6	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.03	0.00	0.01	0.00	0.01	0.00	0.01	0.03	0.01	0.01	0.02	0.00	0.04	0.00	0.06	0.01
B*1302	Bw4	0.00	0.01	0.02	0.01	0.01	0.00	0.03	0.06	0.01	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
B*1401	Bw6	0.00	0.01	0.00	0.01	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01
B*1402	Bw6	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.04	0.03	0.02	0.02	0.03	0.02	0.03	0.02	0.06	0.01
B*1501	Bw6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
B*1502	Bw6	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.00	0.01	0.01	0.02	0.01	0.01	0.01	0.01
B*1503	Bw6	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.05	0.01	0.01	0.00	0.01	0.01	0.01	0.04	0.01	0.02	0.01	0.00	0.02	0.02	0.02	0.01
B*1510	Bw6	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.02	0.06	0.02	0.02	0.03	0.01	0.03	0.01	0.04	0.01
B*1512	Bw6	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.00	0.01	0.01
B*1513	Bw4	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.07	0.06	0.02	0.00	0.01	0.01	0.05	0.03	0.01	0.02	0.03	0.02	0.03	0.01	0.02	0.01
B*1516	Bw4	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.07	0.05	0.01	0.00	0.01	0.01	0.05	0.02	0.01	0.02	0.03	0.03	0.02	0.02	0.02	0.01
B*1801	Bw6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
B*2705	Bw4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01
B*2708	Bw6	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.04	0.00	0.01	0.01	0.03	0.06	0.01	0.02	0.03	0.01	0.05	0.00	0.07	0.01
B*3501	Bw6	0.00	0.01	0.03	0.00	0.00	0.00	0.01	0.03	0.01	0.09	0.00	0.02	0.01	0.03	0.16	0.01	0.05	0.06	0.01	0.11	0.01	0.11	0.02
B*3701	Bw4	0.00	0.01	0.02	0.01	0.01	0.00	0.02	0.09	0.02	0.02	0.00	0.01	0.01	0.02	0.02	0.01	0.02	0.03	0.01	0.07	0.02	0.07	0.01
B*3801	Bw4	0.02	0.17	0.20	0.04	0.01	0.01	0.14	0.46	0.41	0.01	0.00	0.01	0.02	0.04	0.18	0.02	0.08	0.07	0.01	0.17	0.02	0.19	0.02
B*3901	Bw6	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.10	0.00	0.00	0.00	0.02	0.02	0.00	0.01	0.01	0.01	0.02	0.00	0.01	0.01
B*3905	Bw6	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.06	0.00	0.02	0.01	0.03	0.10	0.01	0.02	0.04	0.01	0.05	0.00	0.08	0.01
B*4001	Bw6	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.08	0.00	0.02	0.03	0.04	0.16	0.02	0.07	0.08	0.01	0.12	0.01	0.15	0.03
B*4002	Bw6	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.01	0.02	0.02	0.05	0.07	0.02	0.03	0.04	0.02	0.05	0.02	0.06	0.02
B*4005	Bw6	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.02	0.00	0.01	0.00
B*4101	Bw6	0.01	0.02	0.02	0.02	0.02	0.01	0.03	0.02	0.03	0.04	0.01	0.02											

Supplemental Figure S3. W6/32 binding to individual HLA allotypes.



C W6/32 binding of HLA coated beads

0-50%	51-75%	76-100%	76-100%
B*5101 23	B*5301 51	C*1502 77	B*2705 87
C*0401 31	B*3801 54	A*0301 77	A*2902 87
C*0702 38	C*1203 54	B*3701 77	A*1102 87
B*5201 39	A*8001 54	B*3905 77	B*1801 87
C*1701 41	C*1402 55	B*8101 78	A*1101 88
B*5102 45	A*6901 55	B*5703 78	B*6701 89
C*0202 47	B*4002 55	A*2402 78	B*2708 89
B*5901 47	C*0602 57	B*4701 78	B*5701 89
B*4403 48	C*1802 58	A*3303 79	B*4102 89
B*1502 49	B*1503 58	B*8201 80	A*3201 90
B*1302 49	A*0203 59	B*0801 80	B*4501 90
C*0501 49	A*3601 63	B*3501 81	A*3001 90
B*4101 50	B*5401 63	B*4005 81	A*0201 93
B*4801 50	B*1510 63	A*3401 81	A*0206 93
	B*1402 63	A*6602 82	A*3101 95
	B*5801 64	A*2403 82	A*2301 95
	C*0303 64	B*4402 82	B*1501 98
	A*4301 65	B*5001 82	
	B*4601 65	B*1401 82	
	B*3901 65	B*7801 83	
	A*7401 67	B*1512 83	
	B*4001 68	B*4201 83	
	C*0304 68	B*5601 83	
	A*0101 68	B*7301 84	
	A*2601 70	C*0801 85	
	A*2901 71	B*4901 85	
	A*6802 72	B*5501 85	
	C*1601 73	A*2501 85	
	B*0702 73	C*0102 85	
	B*1516 74	C*0302 86	
	A*6601 75	A*3301 86	
	B*1513 75	A*6801 86	

Supplemental Figure S4. Natural variation at position 44 in KIR.

Residue 44	Natural occurrence
D	elephant*
E	chimpanzee, gorilla, orangutan, mouse lemur†
G	elephant*
H	human*, chimpanzee*, rhesus macaque*
I	human, chimpanzee, bonobo, orangutan, gibbon squirrel monkey, owl monkey, duski titi monkey, rhesus macaque, spider monkey, green monkey, mouse, rat
K	human, chimpanzee, bonobo, gorilla, orangutan, gibbon, rhesus macaque, green monkey, galago†
L	cat†
M	human, chimpanzee, bonobo, gorilla, owl monkey
N	rhesus macaque, green monkey
S	cattle*
T	human, orangutan, rhesus macaque, green monkey
V	owl monkey, horse, seal, sea lion

Supplemental Figure S5. HLA class I binding of Popy2DLA and 19 position 44 mutants.

