

Supporting Information

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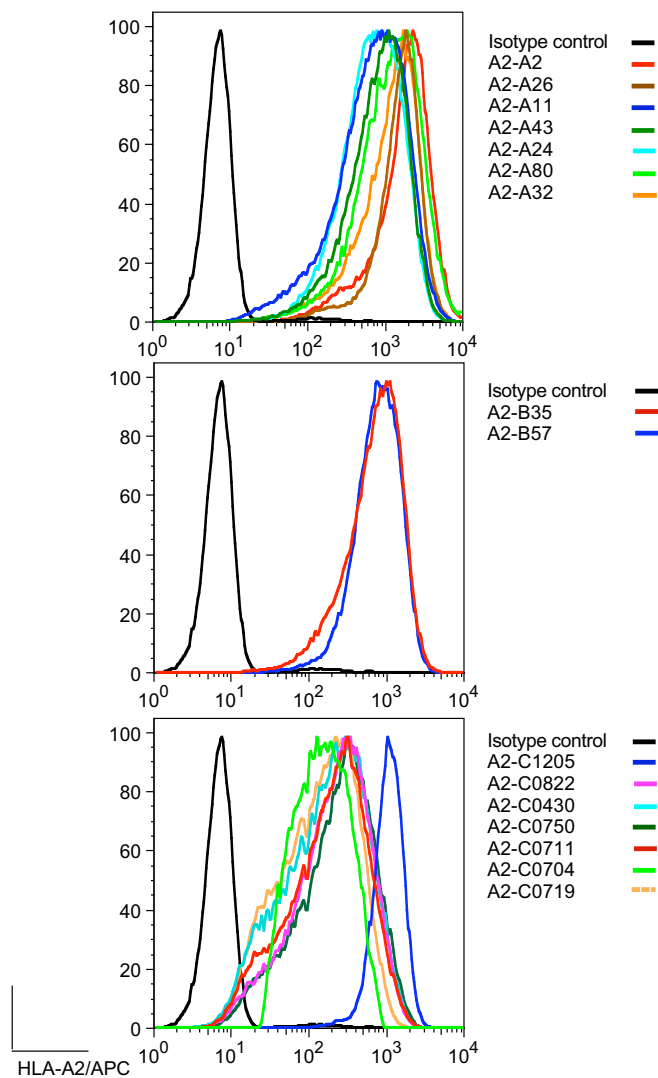


Fig. S1. Representative histograms demonstrating expression of HLA-A2-A, -B, and -C chimera on the surface of Jurkat cell lines.

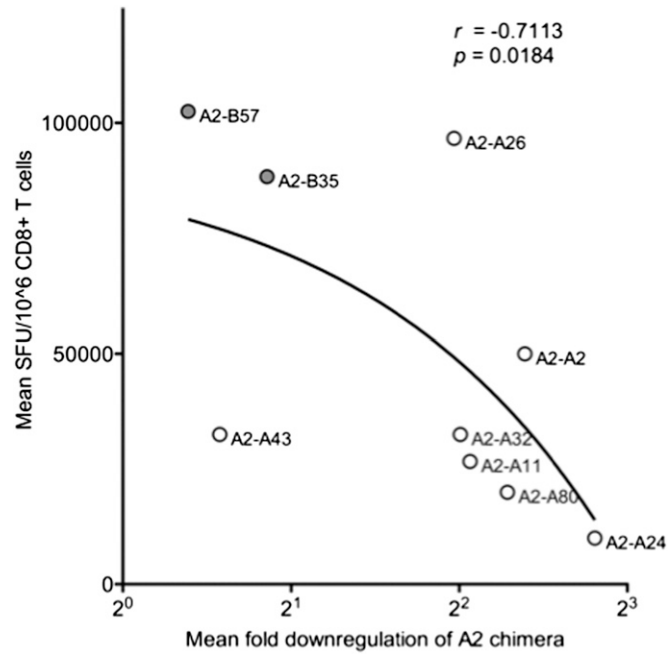


Fig. S2. Correlation between level of down-regulation of A2 chimera (HLA-A and HLA-B) of HIV-IIIB-infected cells and mean spot-forming units. All data are summary of three independent experiments.

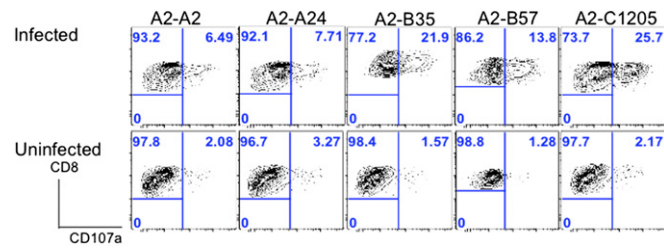


Fig. S3. Expression of CD107a was measured on the G10 cells cocultured with infected cells. All data are representative of three independent experiments.

Table S1. Complete list of alleles shared cytoplasmic domain sequences

Allele name	Known class-I alleles
HLA-A A2-A2	A*6901, A*6871, A*6836, A*6822, A*6817, A*6808, A*6803, A*6802, A*6801, A*1105, A*0289, A*0281, A*0279, A*0277, A*0268, A*0264, A*0260, A*0257, A*0251, A*0248, A*0233, A*0230, A*02279, A*02269, A*02266, A*02265, A*02264, A*02259, A*02253, A*02251, A*0224, A*02249, A*02230, A*0222, A*0218, A*0217, A*0216, A*0213, A*02124, A*0212, A*0211, A*0209, A*0210, A*0207, A*0206, A*0205, A*0204, A*0203, A*0202, A*0201
HLA-A A2-A26	A*2501, A*2502, A*2601, A*2602, A*2603, A*2604, A*2605, A*2607, A*2608, A*2615, A*2650, A*2901, A*2902, A*2903, A*3101, A*3104, A*3132, A*3146, A*3201, A*3202, A*3205, A*3217, A*3301, A*3303, A*3307, A*3349, A*3401, A*3402, A*4301, A*6601, A*6602, A*7401, A*7402, A*0265
HLA-A A2-A11	A*3601, A*3025, A*3008, A*3004, A*3002, A*3001, A*1177, A*1175, A*1174, A*1162, A*1161, A*1160, A*1156, A*1150Q, A*1125, A*1112, A*1110, A*1107, A*1104, A*1103, A*1102, A*1101, A*0378, A*0377, A*0339, A*0326, A*03134, A*0304, A*0302, A*0301, A*0120, A*0125, A*0114, A*0109, A*0103, A*0102, A*0101
HLA-A A2-A43	Aw*43
HLA-A A2-A24	A*2461, A*2422, A*2420, A*24152, A*24143, A*24142, A*24129, A*24128, A*2410, A*2408, A*2407, A*2404, A*2403, A*2402, A*2326, A*2309, A*2306, A*2301
HLA-A A2-A80	A*8001
HLA-A A2-A32	A*32
HLA-B A2-B35	B*1402, B*49, B*15, B*15/41, B*1501, B*15011, B*1501101, B*1502, B*1504, B*1508, B*1510new, B*1511, B*1512, B*1513, B*1514, B*1515, B*1516, B*1517, HLA-B*15170101, B*1518, HLA-B*1525, B*1519, B*1520, B*1521, B*1522, B*1523, B*1542, B*1554, B*1801, B*3502, B*3515, B*3511, B*3512, B*3541, B*3565Q, B*38new, B*390101, B*39011, B*3906v, B*3913v, B*510111, B*510113, B*510114, 510115, B*510116, B*51022, B*5104, B*5108, B*5301, B*53v, HLA-B*5401, B*5501, B*14, B*15, B*18, B*3801, B*35, B*38, B*51, B*51-cd3.3, B*73, B7301, Bw46, Bw58, Bw65, Bw72, Bw78
HLA-B A2-B57	B*07, B*27, B*4002, B*57, B*8101, B*0703, B*0705, B*07021, B*07021, B*0706, B*0707, B*0750, B*07ne, B*07xx 362, B*1301, B*1302, B*130203, B*27052 B*2706, B*2711, B*2732, B*3701, B*3702, B*4007 B*4201, B*4202, B*4208, B*44, B*44021, B*4403, B*4407, B*4805, B*5701 B*5706, B*5711, B*8101, B*0701, B*0703, B*0704, B*0802, B*13, B*44.2, B*44BO, B*4803, Bw41, Bw42, Bw62, B*44new
HLA-C A2-C1205	C*0346, C*1802, C*1801, C*1604, C*1602, C*1601, C*1517, C*1516, C*1513, C*1505, C*1504, C*1503, C*1502, C*1436, C*1423, C*1403, C*1222, C*1219, C*1213, C*1208, C*1205, C*1204, C*1203, C*1202, C*0841, C*0840, C*0831, C*0827, C*0825, C*0824, C*0821, C*0820, C*0804, C*0803, C*0802, C*0801, C*0624, C*0602, C*0509, C*0508, C*0503, C*0501, C*0471, C*0470, C*0442, C*0406, C*0403, C*0401, C*0361, C*0340, C*0313, C*03100, C*0306, C*0305, C*0304, C*0303, C*0302, C*0223, C*0221, C*0220, C*0216, C*0211, C*0210, C*0202, C*0140, C*0130, C*0121, C*0114, C*0108, C*0106, C*0104, C*0103, C*0102
HLA-C A2-C0822	C*0822
HLA-C A2-C0430	C*0430
HLA-C A2-C0750	C*0750
HLA-C A2-C0711	C*0711
HLA-C A2-C0704	C*0767, C*0766, C*0757, C*0756, C*0749, C*0742, C*0736, C*0730, C*0729, C*0726, C*07172, C*07170, C*07149, C*0704, C*0702, C*0701, C*07235, C*0704, C*0702, C*0701, C*0752, C*0793, C*0759, C*0746, C*07208
HLA-C A2-C0719	C*0719, C*0718, C*0706

Table S2. List of primers used to make the HLA class-I alleles

Primer name	Sequence
A2F2Bam	ACG <u>GGA TCC</u> ACC ACC ATG GCC GTC ATG GCG CCC CGA
A2R2Not	ATA GTT TAG <u>CGG CCG CTC</u> ACA CTT TAC AAG CTG TGA GAG ACA CAT CAG A
A2M1RNot	ATA GTT TAG <u>CGG CCG CTC</u> ACA CTT TAC AAG CTG TGA GAG ACA <u>TAT</u> CAG A
A2M2RNot	ATA GTT TAG <u>CGG CCG CTC</u> ACA CTT TAC AAG CTG TGA GAG ACA CAT AGC CCT GAG <u>CTC</u> TGT CAC T
A2M3RNot	ATA GTT TAG <u>CGG CCG CTC</u> ACA CTT TAC AAG CTG TGA GAG ACA CAT CAG AGC CCT GGG CAC TGT CAC TGC TTG CAG CCT GAG <u>TGT</u> AAC T
A2M4RNot	ATA GTT TAG <u>CGG CCG CTC</u> ACA CTT TAC AAG CTG TGA GAG ACA <u>TAT</u> CAG AGC CCT GGG CAC TGT CAC TGC TTG CAG CCT <u>GAA</u> AGT AGC T
A2M5R	TGT GAG AGA CAC ATC AGA GCC CTG GGC ACT GTC ACT GCT TGC AGC CTG AGA GTA GCT CCC TCC TTT TCT ATC TGA GCT <u>GTT</u> CCT CCT
A2M6R	TGT GAG AGA CAC ATC AGA GCC CTG GGC ACT GTC ACT GCT TGC AGC CTG
A2R	T CCA CAT CAC AGC AGC GAC CAC
B57F	T GTG GTC GCT GCT GTG ATG TGG AGG AGG AAG AGC TCA GGT GGA AAA GG
B57NotR	ATA GTT TAG <u>CGG CCG CTC</u> A AGC TGT GAG AGA CAC ATC AGA GCC CTG GGC ACT GTC GCT GCA CGC AGC
B35NotR	ATA GTT TAG <u>CGG CCG CTC</u> A AGC TGT GAG AGA CAC ATC AGA GCC CTG GGC ACT GTC GCT GGA CGC AGC
CwR1	GCT GGA CGC AGC CTG AGA GCA GCT CCC TCC TTT TCC ACC TGA GCT CTT CCT CCT CCA CAT CAC AGC AGC GAC CAC
CwR2Not	TCG ATG CGG CCG CTC AGG CTT TAC AAG CGA TGA GAG ACT CAT CAG AGC CCT GGG CAC TGT TGC TGG ACG CAG CCT GAG AGC
CwR1	AGC TCC CTC CTT TTC CAC CTG
CwF1	CAG GTG GAA AAG GAG GGA GCT ACT CTC AGG CTG CGT CCA GC
CwR2	TGG ACG CAG CCT GAG AGC AG
CwF2	CTG CTC TCA GGC TGC GTC CAC CAA CAG TGC CCA GGG CTC TG
CwR3	TCG ATG CGG CCG CTC AGG CTT TAC AAG TGA TGA G
CwR4	ACG CAG CCT GAG AGC AGC TC
CwF4	GAG CTG CTC TCA GGC TGC GTG CAG CAA CAG TGC CCA GGG C
CwR6	ACG CAA CCT GAG AGC AGC TC
UR7	TCG ATG CGG CCG CTC A GGC TTT ACA AGC GAT GAG AGA CTC ATC AGA GCC CTG GGC ACT GTT G

Restriction sites and point mutations are indicated by underline and boldface.

Table S3. HLA-I cytoplasmic tail isoforms and primers used to generate each corresponding HLA-A2 construct

Allele name	Primers used
A2-A2	A2F2Bam/A2R2Not
A2-A26	A2F2Bam/A2M1RNot
A2-A11	A2F2Bam/A2M3RNot
A2-A43	A2F2Bam/A2M4RNot
A2-A24	A2F2Bam/A2M5→A2F2Bam/A2R2Not
A2-A80	A2F2Bam/A2M6→A2F2Bam/A2R2Not
A2-A32	A2F2Bam/A2M7→A2F2Bam/A2R2Not
A2-B35	B57F/B57NotR→A2F2Bam/ B57NotR
A2-B57	B57F/B35NotR→A2F2Bam/B35NotR
A2-C1205	CwR1/Cw2Not→A2F2Bam/A2R
A2-C0822	A2F2Bam/CwR1→CwF2/UR7→A2F2Bam/UR7
A2-C0430	A2F2Bam/CwR2→CwF2/UR7→A2F2Bam/UR7
A2-C0750	A2F2Bam/CwR3
A2-C0711	A2F2Bam/CwR4→CwF4/UR7→A2F2Bam/UR7
A2-C0704	A2F2Bam/CwR4→CwF4/CwR3→A2F2Bam/CwR3
A2-C0719	A2F2Bam/CwR6→CwF4/CwR3→A2F2Bam/CwR3

Table S4. Mean fluorescence intensity and spot-forming unit values used for Fig. 2B

	Mean fluorescent intensity of HLA-A2 chimera	SFU/10 ⁻⁶ CTL clones		
		Exp 1	Exp 2	Exp 3
A2-A2	1,083.00	57,500	55,000	37,500
A2-A26	1,158.00	105,000	115,000	70,000
A2-A11	1,097.00	27,500	30,000	22,500
A2-A43	647.00	37,500	27,500	32,500
A2-A24	1,056.00	15,000	12,500	2,500
A2-A80	835.00	20,000	20,000	20,000
A2-A32	646.00	32,500	27,500	37,500
A2-B35	931.00	167,500	62,500	35,000
A2-B57	1,254.00	110,000	80,000	117,500
A2-C1205	1,161.00	50,000	67,500	62,500
A2-C0822	484.00	7,500	5,000	—
A2-C0430	564.00	17,500	7,500	12,500
A2-C0750	501.00	5,000	7,500	2,500
A2-C0711	428.00	17,500	20,000	—
A2-C0704	222.00	10,000	10,000	5,000
A2-C0719	392.00	7,500	12,500	10,000

Data used for generation of Fig. 2B. Mean fluorescent intensity of A2 chimera as determined (on day 6 of infection) of IIB-infected cells before carrying out the live virus ELISPOT assay as described in methods. Representative data of an experiment that was carried out three times.