

Supplemental Material

Down-modulation of CD8 $\alpha\beta$ is a fundamental activity of primate lentiviral Nef proteins

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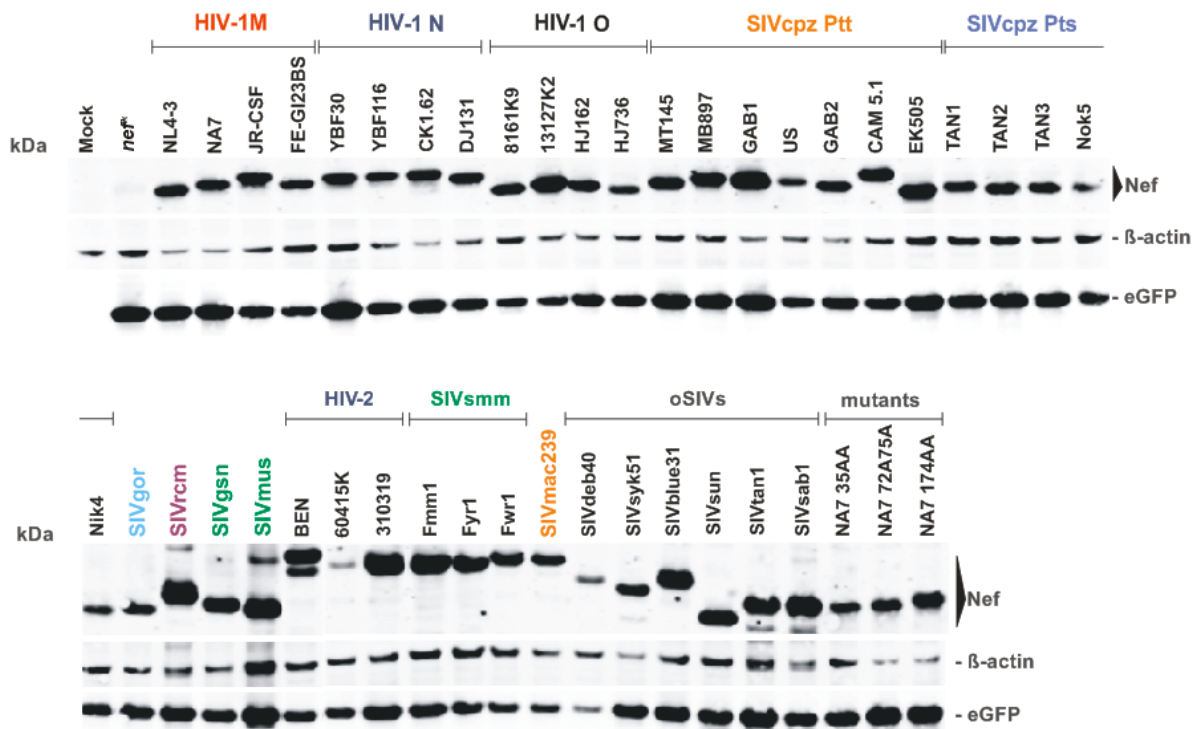


FIG. S1. Expression of primate lentiviral Nef proteins. Western blot analysis of cell lysates following transfection of 293T cells with pCGCG vectors expressing AU-1-tagged versions of the indicated Nef proteins. Lysates were probed with an anti AU-1 monoclonal antibody (Covance), anti β -actin polyclonal antibody (Abcam) and anti GFP polyclonal antibody (Abcam) to determine protein expression levels.

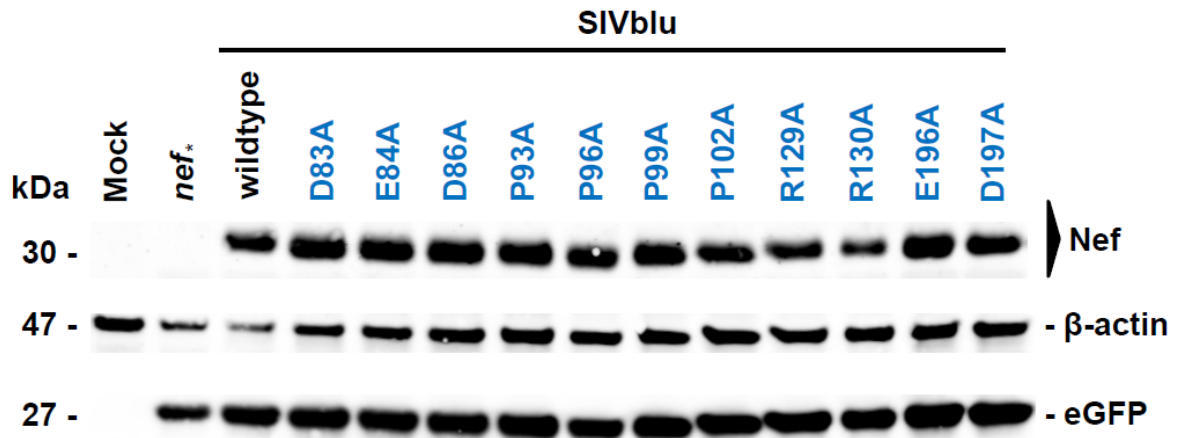


FIG. S2. Expression of wild-type and mutant SIVblu Nef proteins. Western blot analysis was performed as described in the legend to Fig. S1.

Supplementary Table 1. Modulation of cellular receptors by HIV and SIV *nef* alleles

Lineage	Clone	GenBank Accession #	Species/subspecies	receptor down-modulation (n-fold)				
				A2-CD8 β	CD8 β	MHC-I	CD4	CD28
HIV-1/M	NL4-3	M19921	Human (<i>Homo sapiens</i>)	7.0	6.5	2.5	6.5	1.9
HIV-1/M	NA7	DQ242535	Human (<i>Homo sapiens</i>)	9.9	12.5	2.1	9.4	3.2
HIV-1/M	JR-CSF	M38429	Human (<i>Homo sapiens</i>)	5.7	3.5	3.1	10.6	1.4
HIV-1/N	YBF30	AJ006022	Human (<i>Homo sapiens</i>)	2.6	3.7	1.4	7.4	1.5
HIV-1/N	YBF116	AY536907	Human (<i>Homo sapiens</i>)	4.7	5.4	2.1	5.8	2.0
HIV-1/N	CK1.62	GQ925929	Human (<i>Homo sapiens</i>)	1.3	2.0	1.3	4.2	1.3
HIV-1/N	DJ131	AY532635	Human (<i>Homo sapiens</i>)	7.9	13.6	2.4	10.2	1.6
HIV-1/O	MVP8161	AY536905	Human (<i>Homo sapiens</i>)	5.2	13.6	2.5	7.1	1.9
HIV-1/O	MVP13127	AY536904	Human (<i>Homo sapiens</i>)	6.4	14.1	2.6	8.1	2.3
HIV-1/O	HJ162	GQ925932	Human (<i>Homo sapiens</i>)	7.1	23.4	2.6	10.4	4.2
HIV-1/O	HJ736	GQ925935	Human (<i>Homo sapiens</i>)	3.8	5.0	2.6	9.3	1.6
SIVcpzPtt	MT145	DQ373066	Central chimpanzee (<i>Pan t. troglodytes</i>)	7.0	11.9	2.3	9.9	2.0
SIVcpzPtt	MB897	EF535994	Central chimpanzee (<i>Pan t. troglodytes</i>)	10.6	14.2	3.0	10.9	3.5
SIVcpzPtt	GAB1	X52154	Central chimpanzee (<i>Pan t. troglodytes</i>)	9.7	12.0	2.2	11.5	2.0
SIVcpzPtt	US	AY536908	Central chimpanzee (<i>Pan t. troglodytes</i>)	3.9	6.3	1.9	5.1	1.6
SIVcpzPtt	GAB2	AF382828	Central chimpanzee (<i>Pan t. troglodytes</i>)	9.2	11.8	1.8	9.1	3.4
SIVcpzPtt	CAM5.1	AY536911	Central chimpanzee (<i>Pan t. troglodytes</i>)	10.2	11.7	1.4	8.2	1.7
SIVcpzPtt	EK505	DQ373065	Central chimpanzee (<i>Pan t. troglodytes</i>)	9.6	9.8	2.1	6.6	3.0
SIVcpzPts	TAN1	EF394356	Eastern chimpanzee (<i>Pan t. schweinfurthii</i>)	7.6	11.2	2.1	6.6	4.8
SIVcpzPts	TAN2	DQ374657	Eastern chimpanzee (<i>Pan t. schweinfurthii</i>)	3.5	2.8	3.4	4.5	1.5
SIVcpzPts	TAN3	DQ374658	Eastern chimpanzee (<i>Pan t. schweinfurthii</i>)	6.6	8.7	2.1	7.1	3.1
SIVcpzPts	Nok5	AY536915	Eastern chimpanzee (<i>Pan t. schweinfurthii</i>)	8.1	12.2	1.7	9.1	3.4
SIVcpzPts	Nik4	AY536916	Eastern chimpanzee (<i>Pan t. schweinfurthii</i>)	8.2	11.8	1.7	6.9	3.5
SIVgsn	CM166	AF468659	Greater spot-nosed monkey (<i>C. nictitans</i>)	4.2	7.6	2.7	10.5	6.7
SIVmus	CMS1085	AY340700	Mustached monkey (<i>Cercopithecus cephus</i>)	2.7	4.4	2.9	6.0	2.5
SIVmon	CML1	AY340701	Mona monkey (<i>Cercopithecus mona</i>)	2.0	2.9	1.6	6.9	3.2
SIVgor	CP2139	FJ424866	West. lowland gorilla (<i>G. g. gorilla</i>)	6.6	18.2	2.2	9.2	2.2
SIVmac	239	M33262	Rhesus macaque (<i>Macaca mulatta</i>)	15.4	18.5	2.6	6.0	4.4
HIV-2	BEN	M30502	Human (<i>Homo sapiens</i>)	10.7	21.8	3.8	9.1	10.4
HIV-2	CBL-23	DQ222472	Human (<i>Homo sapiens</i>)	4.6	1.9	5.1	1.8	1.1
HIV-2	60415K	DQ092764	Human (<i>Homo sapiens</i>)	5.8	9.8	3.4	8.4	1.5
HIV-2	310319	DQ092766	Human (<i>Homo sapiens</i>)	3.2	4.5	3.0	11.5	2.5
SIVsmm	FMm1	DQ092762	Sooty mangabey (<i>Cercocebus atys</i>)	10.5	10.3	2.6	3.7	2.1
SIVsmm	FYr1	DQ092760	Sooty mangabey (<i>Cercocebus atys</i>)	12.8	12.2	1.9	7.1	4.8
SIVsmm	FWr1	DQ092758	Sooty mangabey (<i>Cercocebus atys</i>)	12.1	12.5	2.0	5.9	6.4
SIVrcm	GB1	AF382829	Red-capped mangabey (<i>Cercocebus torquatus</i>)	4.2	3.0	1.2	2.1	1.2
SIVdeb	CM40	AY523865	De Brazza monkey (<i>Cercopithecus neglectus</i>)	9.2	8.3	1.6	5.7	5.6
SIVsyk	KE51	AY523867	Sykes monkey (<i>Cercopithecus albogularis</i>)	9.6	11.9	1.5	4.0	4.4
SIVblu	KE31	DQ222474	Blue monkey (<i>Cercopithecus mitis</i>)	12.9	11.1	2.8	4.3	4.8
SIVsun	sol-36	DQ222476	Sun-tailed monkey (<i>Cercopithecus solatus</i>)	3.2	3.0	2.0	5.5	2.5
SIVtan	1	AF395566	Tantalus monkey (<i>Chlorocebus tantalus</i>)	11.7	14.2	1.5	4.9	3.7
SIVsab	1	U04005	Green monkey (<i>Chlorocebus sabaeus</i>)	10.1	8.4	2.8	3.4	3.6

The Nef-mediated *n*-fold down-modulation of A2-CD8 β , CD8 β , MHC-I, CD4 and CD28 was calculated by dividing the MFI of cells infected with a *nef*-deficient HIV-1 expressing a specific range of green fluorescence by the corresponding number obtained for cells infected with HIV-1 constructs coexpressing Nef and eGFP.