

Table 15: **Nef**

HXB2 Location	Author Location	Sequence	Immunogen	Species(HLA)	References
Nef(1–20)	Nef(1–20 LAI)	MGGKWSKSSVVGWPTVRERM	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev
Nef(16–35)	Nef(16–35 LAI)	VRERMRAEPAADGVGAASR	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev
Nef(31–50)	Nef(31–50 LAI)	GAASRDLEKHGAISSNTAA	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev
Nef(45–69)	Nef(45–69 BRU)	SSNTAATNAACAWLEAQ- EEEEVGFP	rec Nef	rat and chim- panzee()	[Estaquier (1992)]
					<ul style="list-style-type: none"> • Antigenic domain: ATNAACAWL, priming with peptide enhanced subsequent Ab response to Nef protein immunization
Nef(46–65)	Nef(46–65 LAI)	SNTAATNAACAWLEAQEEEE	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev
Nef(61–80)	Nef(61–80 LAI)	QEEEEVGFPVTPQVPLRPMT	Nef, Rev and Tat DNA immunization	murine(H-2 ^b)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev
Nef(76–95)	Nef(76–95 LAI)	LRPMTYKAAVDLSHFLKEKG	Nef, Rev and Tat DNA immunization	murine(H-2 ^b)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev
Nef(91–110)	Nef(91–110 LAI)	LKEKGGLEGLIHSQRRQDIL	Nef, Rev and Tat DNA immunization	murine(H-2 ^b)	[Hinkula (1997)]
					<ul style="list-style-type: none"> • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev

HIV Helper-T Cell Epitopes

HXB2 Location	Author Location	Sequence	Immunogen	Species(HLA)	References
Nef(98–112)	Nef(98–112 BRU) • Peptide alone could stimulate monkey T-cells in the absence of carrier protein – required carrier protein in rat	EGLIHSQRRQDILDL	rec Nef	chimpanzee()	[Estaquier (1992)]
Nef(106–125)	Nef(106–125 LAI) • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev	RQDILDLWIYHTQGYFPDWQ	Nef, Rev and Tat DNA immunization	murine(H-2 ^b)	[Hinkula (1997)]
Nef(121–140)	Nef(121–140 LAI) • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev	FPDWQNYTPGPGVRYPLTFG	Nef, Rev and Tat DNA immunization	murine(H-2 ^b)	[Hinkula (1997)]
Nef(136–155)	Nef(136–155 LAI) • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev	PLTFGWICYKLVPEPDKVEE	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
Nef(151–170)	Nef(151–170 LAI) • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev	DKVEEANKGENTSLHPVSL	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
Nef(166–185)	Nef(166–185 LAI) • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev	HPVSLHGMDPEREVLEWRF	Nef, Rev and Tat DNA immunization	murine(H-2 ^{b,d})	[Hinkula (1997)]
Nef(181–205)	Nef(181–205 LAI) • Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein • Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev	LEWRFDSRLAFHHVARE- LHPEYFKN	Nef, Rev and Tat DNA immunization	murine(H-2 ^d)	[Hinkula (1997)]
Nef(185–200)	Nef(183–198) • T-cell response to this epitope persisted after seroreversion	FDSRLAFHHVARELHP	HIV-1 infection	human()	[Ranki (1997)]
Nef()	Nef() • This study compares the level of variation in Nef CTL epitopes to helper and MAb epitopes from the same region; CTL epitopes tend to be more conserved than either helper or MAb epitopes and there are stronger functional constraints in the regions where CTL epitopes cluster.		HIV-1 infection	human()	[da Silva & Hughes(1998)]