

Table 12: **Nef**

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
Nef(1-20 LAI)	Nef(1-20)	MGGKWSKSSVVGWPTVRRM	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>• Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>• Proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(16-35 LAI)	Nef(16-35)	VRERMRRAPPADGVGAASR	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>• Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>• Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(31-50 LAI)	Nef(31-50)	GAASRDLEKHGATSSNTAA	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>• Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>• Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(45-69 BRU)	Nef(45-67)	SSNTAATNACAWLEAQ- EEEEVGFP	rec Nef	rat and chimpanzee	[Estraguer et al.(1992)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>• Antigenic domain: ATNACAWL, priming with peptide enhanced subsequent Ab response to Nef protein immunization</li> </ul>
Nef(46-65 LAI)	Nef(46-65)	SNTAATNACAWLEAQEEEE	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>• Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>• Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>

## HIV Helper-T Cell Epitopes

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
Nef(61–80 LAD)	Nef(59–78)	QEEEEVGFVPTQVPLRPMT	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>b</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(76–95 LAD)	Nef(74–93)	LRPMTYKAAVDLSHFLKEKG	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>b</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(98–112 BRU)	Nef(96–110)	EGLIHSQRQDILD	rec Nef	chimpanzee	[Estaquier et al.(1992)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Peptide alone could stimulate monkey T-cells in the absence of carrier protein – required carrier protein in rat</li> </ul>
Nef(91–110 LAD)	Nef(89–108)	LKEKGGLEGLIHSQRQDIL	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>b</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(106–125 LAD)	Nef(104–123)	RQDILDWYHTQGYFPDWQ	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>b</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>

## HIV Helper-T Cell Epitopes

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
Nef(121–140 LAI)	Nef(119–138)	FPDWQNTYTPGGVRYPLTFG	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>b</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(136–155 LAI)	Nef(134–153)	PLTFGWCYKLVPEPDKVEE	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(151–170 LAI)	Nef(149–168)	DKVEEANKGENTSLHPVSL	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(166–185 LAI)	Nef(164–183)	HPVSLHGMDPEREVLWRF	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>b,d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(181–205 LAI)	Nef(179–203)	LEWRFD SRLAFHHVARE- LHPEYFKN	Nef, Rev and Tat DNA immunization	murine(H-2 <sup>d</sup> )	[Hinkula et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>Stronger, broader responses were observed in animals vaccinated with DNA epidermally rather than with intramuscular protein</li> <li>Some proliferative response to vaccination was observed to peptides throughout Nef and Tat, less for Rev</li> </ul>
Nef(183–198)	Nef(183–198)	FDSRLAFHHVARELHP?	HIV-1 infection	human	[Ranki et al.(1997)]
	<b>NOTES:</b>				
					<ul style="list-style-type: none"> <li>T-cell response to this epitope persisted after seroreversion</li> </ul>