

HIV CTL Epitopes

Table 13: **Vif**

HXB2 Location	Author Location	Sequence	Immunogen	Species(HLA)	References
Vif(17–26)	Vif(17–26 SF2)	RIRTWKSLVK	HIV-1 infection	human(A*0301)	[Altfeld (2001a)]
	<ul style="list-style-type: none"> • Epitope name: RK10. CTL responses against HIV-1 Vpr, Vpu, and Vif were analyzed in multiple HIV-1-infected individuals • 10/29 (35%) individuals tested responded to Vif • This epitope was recognized by 3/15 individuals expressing A*0301 allele • HIV+ individual AC-06 was tested for reactive overlapping peptides spanning all HIV-1 proteins in an ELISPOT and was found to react with 12 peptides from 7 proteins, suggesting that the breadth of CTL responses is underestimated if accessory proteins are not included in the study • Overlapping Vif peptides QVDRMRIRTWKSLVK and RIRTWKSLVKHHMYI both reacted with T-cells from AC-06 and contained epitope RIRTWKSLVK 				
Vif(17–26)	()	RIRTWKSLVK		(A3)	[Altfeld(2000), Brander & Goulder(2001)]
Vif(31–39)	Vif(31–39 SF2)	ISKKAKGWF	HIV-1 infection	human(B*5701)	[Altfeld (2001a)]
	<ul style="list-style-type: none"> • CTL responses against HIV-1 Vpr, Vpu, and Vif were analyzed in multiple HIV-1-infected individuals • 10/29 (35%) individuals tested responded to Vif • This epitope was recognized by 2/6 individuals carrying the B*5701 allele 				
Vif(48–57)	Vif(48–57 SF2)	HPRVSSEVHI	HIV-1 infection	human(B*0702)	[Altfeld (2001a)]
	<ul style="list-style-type: none"> • Epitope name: HI10. CTL responses against HIV-1 Vpr, Vpu, and Vif were analyzed in multiple HIV-1-infected individuals • 10/29 (35%) individuals tested responded to Vif • This epitope was recognized by 3/8 individuals carrying the B*0702 allele • HIV+ individual AC-06 was tested for reactive overlapping peptides spanning all HIV-1 proteins in an ELISPOT and was found to react with 12 peptides from 7 proteins, suggesting that the breadth of CTL responses is underestimated if accessory proteins are not included in the study • Overlapping Vif peptides HHYESTHPRVSSEVH and THPRVSSEVHIPLG both reacted with T-cells from AC-06 and contained epitope HPRVSSEVHI 				
Vif(102–111)	Vif(102–111 SF2)	LADQLIHLHY	HIV-1 infection	human(B*1801)	[Altfeld (2001a)]
	<ul style="list-style-type: none"> • CTL responses against HIV-1 Vpr, Vpu, and Vif were analyzed in multiple HIV-1-infected individuals • 10/29 (35%) individuals tested responded to Vif • This epitope was recognized by 2/5 individuals carrying the B*1801 allele 				
Vif(160–169)	Vif()	KPPLPSVKKL		human(B7)	[De Groot (2001)]
	<ul style="list-style-type: none"> • The program Epimatrix was used in conjunction with the program Conservatrix to identify conserved regions of HIV that might serve as epitopes 				

- A subset of the potential epitopes was identified that could bind to the appropriate HLA-allele, and 15 predicted B7 superfamily (HLA B7, B8, and B58) epitopes could stimulate IFN γ production in an ELISPOT assay
- KPPLPSVKKL was newly identified as an HLA-B7 epitope in this study

Vif() Vif() Vaccine murine() [Kim (1997b)]

Vaccine: *Vector/type:* DNA *HIV component:* Gag, Pol, Vif, Env *Stimulatory Agents:* B7, IL-12

- A gag/pol, vif or env DNA vaccine, when delivered in conjunction with the plasmid encoding the co-stimulatory molecules B7 and IL-12, gave a dramatic increase in both the cytotoxic and proliferative responses in mice
- When IL-12 was present, CTL response could be detected even without *in vitro* stimulation

Vif() Vif() Vaccine murine(H-2^d) [Ayyavoo (2000)]

Vaccine: *Vector/type:* DNA *HIV component:* Vif, Vpu, Nef

- Splenocytes from BALB/c mice immunized with pVVN-P DNA were incubated with Vif, Vpu or Nef antigens for 3 days and assayed for IL-4 and IFN- γ levels
- Antigen stimulation increased IFN- γ production in pVVN-P immunized mice, indicating a Th1 response
- IL-4 production was not significantly changed after antigen stimulation compared to control levels
- Cross-clade CTL activity was also observed: A, B clade, CRF01(AE) clade antigens could serve as targets for the B clade immunization-stimulated CTL – an HIV-1 AC recombinant, however, did not stimulate a CTL response, but was expressed at lower levels on the target cell

CTL