

Table 5: **RT**

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
RT(36–52 BRU)	RT(191–207)	ECTEMEKEGKISKIGP	HIV infection	human	[De Groot et al.(1991)]
	NOTES:				
			• 9 out of 17 humans can make strong IL2 responses to this epitope		
RT(38–52 BRU)	RT(193–207)	CTEMEKEGKISKIGP	RT	murine(H-2 ^k)	[De Groot et al.(1991)]
	NOTES:				
			• T-cells from RT immunized mice have enhanced proliferative response with peptide		
RT(194–208)	RT(194–208)	TEMEKEGKISKIGPE	Protein priming <i>in vitro</i>	human	[Manca et al.(1995a)]
	NOTES:				
			• Protein priming induced T-cells that recognize peptide, 4 clones from a single donor recognized this peptide		
RT(48–62 BRU)	RT(203–217)	SKIGPENPYNTPVFA	RT	murine(H-2 ^k)	[De Groot et al.(1991)]
	NOTES:				
			• T-cells from RT immunized mice have enhanced proliferative response with peptide		
RT(62–77 BRU)	RT(217–232)	AIKKKDSTKWRKLVDF	RT	murine(H-2 ^k)	[De Groot et al.(1991)]
	NOTES:				
			• T-cells from RT immunized mice have enhanced proliferative response with peptide		
RT(88–102 BRU)	RT(243–257)	WEVQLGIPPAGLK	RT	murine(H-2 ⁱ⁴)	[De Groot et al.(1991)]
	NOTES:				
			• T-cells from RT immunized mice have enhanced proliferative response with peptide		
RT(133–147 BRU)	RT(288–302)	PSINNETPGIRYQYN	RT	murine(H-2 ^{k;45})	[De Groot et al.(1991)]
	NOTES:				
			• T-cells from RT immunized mice have enhanced proliferative response with peptide		

HIV Helper-T Cell Epitopes

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
RT(144-158 BRU)	RT(299-313)	YQYNVLPQGWKGSPA	RT	murine(H-2 ^{k4})	[De Groot et al.(1991)]
	NOTES:				
					<ul style="list-style-type: none"> • T-cells from RT immunized mice have enhanced proliferative response with peptide
RT(p66 IIB)	RT(350-364)	IGQHRTKIEELRQHL	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
	NOTES:				
					<ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide
RT(351-370)	RT(351-370)	GQHRTKIEELRQHLRWGLT	Protein priming <i>in vitro</i>	human	[Manca et al.(1995a)]
	NOTES:				
					<ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide. 4 clones from a single donor recognized this peptide
RT(p66 IIB)	RT(404-418)	KDSWTWNDIQKLVGK	Peptide priming <i>in vitro</i>	human	[Manca et al.(1995b)]
	NOTES:				
					<ul style="list-style-type: none"> • Peptide stimulation of PBMC from non-infected individuals <i>in vitro</i> • Peptide priming did not induce T-cells that recognize whole protein
RT(p66 250-260)	RT(406-416)	SSTVNDIQKLV	p66-APC protein priming <i>in vitro</i>	human (DR5(1.01))	[Manca et al.(1996)]
	NOTES:				
					<ul style="list-style-type: none"> • This peptide was the minimal stimulatory sequence • One Th line was stimulated by p66, one by a Glutathione-S-transferase (GST)-peptide fusion protein • Constructs linking GST to the KDSSVNDIQKLVGK peptide at the N-term end of GST stimulated Th cells, constructs linking at the C-term end did not • The C and N termini of GST are not intrinsically permissive or non-permissive, presentation is epitope specific (see FAILKCNINK for contrast)

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Location	WEAU	Sequence	Immunogen	Species(HLA)	References
RT(248-256 HXB2)			p66 <i>in vitro</i>	human(DR5)	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • CD4+ T-cell lines from uninfected individuals by stimulation with p66-pulsed APC • TcR Vβ Dβ Jβ sequences were obtained from p66-specific T-cell clones • Responses to peptides throughout p66, but because of uncertain locations, we are not mapping them – a response to peptide 248–256 was associated with DR5 					
RT(p66 IIB)	RT(413-427)	QKLWGKLNWASQIYP	Peptide priming <i>in vitro</i>	human	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • Peptide stimulation of PBMC from non-infected individuals <i>in vitro</i> • Peptide priming did not induce T-cells that recognize whole protein 					
RT(p66 IIB)	RT(431-445)	WRQLCKLLRGTKALT	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide 					
RT(p66 IIB)	RT(440-454)	GTKALTEVPILTEEA	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide 					
RT(p66 IIB)	RT(449-463)	PLTEEAELELAENRE	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide 					
RT(p66 IIB)	RT(458-472)	LAENREILKEPVHGV	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide 					
RT(p66 IIB)	RT(539-553)	GKTPKFKLPIQKETW	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
<p>NOTES:</p> <ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide 					

HIV Helper-T Cell Epitopes

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
RT(p66 IIB)	RT(584-598)	LEKEPIVGAETFFYVD	Protein priming <i>in vitro</i>	human	[Manca et al.(1995b)]
NOTES: <ul style="list-style-type: none"> • Protein priming induced T-cells that recognize peptide 					
RT(528-543 BRU)	RT(683-698)	KEKVVYLAWVPAHKGIG	peptide	murine(H-2 ^{f,k,d})	[Haas et al.(1991)]
NOTES: <ul style="list-style-type: none"> • T-cells from peptide-primed mice could be restimulated by native RT 					
RT(720-730 LAI)	RT(708-718)	SAGIRKVLFLD?	HIV infection	human	[Schrier et al.(1989)]
NOTES: <ul style="list-style-type: none"> • Stimulates T-cell proliferation in HIV-infected donors 					
RT(899-913 LAI)	RT(887-901)	LKTAVQMAVFIHNFK?	HIV infection	human	[Schrier et al.(1989)]
NOTES: <ul style="list-style-type: none"> • Stimulates T-cell proliferation in HIV-infected donors 					
RT(923-937 LAI)	RT(911-925)	AGERIVDIATDIQT?	HIV infection	human	[Schrier et al.(1989)]
NOTES: <ul style="list-style-type: none"> • Stimulates T-cell proliferation in HIV-infected donors 					
RT(942-954 LAI)	RT(930-942)	KQITKIQNFRVYY?	HIV infection	human	[Schrier et al.(1989)]
NOTES: <ul style="list-style-type: none"> • Stimulates T-cell proliferation in HIV-infected donors 					
RT(gag/pol)	RT		DNA gag/pol, vif, or CMN160 vaccine	murine	[Kim et al.(1997a)]
NOTES: <ul style="list-style-type: none"> • A gag/pol DNA vaccine, when delivered in conjunction with the plasmid encoding the co-stimulatory molecules B7 and IL-12 gives a dramatic increase in both the cytotoxic and proliferative responses in mice 					

HIV Helper-T Cell Epitopes

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
RT(gag/pol)	RT		DNA gag/pol, or env vaccine	murine	[Kim et al.(1997b)]

NOTES:

- A gag/pol DNA vaccine, when delivered in conjunction with the plasmid encoding the co-stimulatory molecule CD86 gives an increase in proliferative responses to P155 in mice