Table 5: **RT**

HXB2 Location	Author Location	Sequence	Immunogen	Species(HLA)	References
RT(36–52)	RT(36–52 BRU)	EICTEMEKEGKISKIGP	HIV-1 infection	human( )	[De Groot (1991)]
	• 9 out of 17 humans can make strong IL2 responses to this epitope				
RT(38–52)	RT(38–52 BRU)	CTEMEKEGKISKIGP	RT immunization	murine(H-2^k)	[De Groot (1991)]
	• T-cells from RT immunized mice have enhanced proliferative response with peptide				
RT(39–53)	RT(194–208)	TEMEKEGKISKIGPE	Protein priming *in vitro*	human( )	[Manca (1995a)]
	• Protein priming induced T-cells that recognize peptide, 4 clones from a single donor recognized this peptide				
RT(48–62)	RT(48–62 BRU)	SKIGPENPYNTPVFA	RT immunization	murine(H-2^k)	[De Groot (1991)]
	• T-cells from RT immunized mice have enhanced proliferative response with peptide				
RT(62–77)	RT(62–77 BRU)	AIKKKDSTKWRKLVDF	RT immunization	murine(H-2^k)	[De Groot (1991)]
	• T-cells from RT immunized mice have enhanced proliferative response with peptide				
RT(88–102)	RT(88–102 BRU)	WEVQLGIPHPAGLKK	RT immunization	murine(H-2^{t4})	[De Groot (1991)]
	• T-cells from RT immunized mice have enhanced proliferative response with peptide				
RT(133–147)	RT(133–147 BRU)	PSINNETPGIRYQYN	RT immunization	murine(H-$2^{k,i5}$)	[De Groot (1991)]
	• T-cells from RT immunized mice have enhanced proliferative response with peptide				
RT(144–158)	RT(144–158 BRU)	YQYNVLPQGWKGSPA	RT immunization	murine(H-2^{t4})	[De Groot (1991)]
	• T-cells from RT immunized mice have enhanced proliferative response with peptide				
RT(171–190)	RT(171–190 HXB2)	FRKQNPDIVIYQYMDDLYVG	HIV-1 infection	human(DR1, 2 or 3, 4 and 7)	[van der Burg (1999)]
	• T-cells specific for this epitope from the three donors were stimulated when presented with target cells pulsed with whole RT, indicating that the peptide is naturally processed for multiple HLA-DR molecules • Epitope binds to HLA-DR1, -DR2, -DR3, -DR4, and DR7, and can elicit Th1 cells that recognize peptide, protein, and HIV pulsed stimulator cells in the context of DR1, 2 or 3, 4 and 7 – these HLA types cover more than half of the general population				

HXB2 Location	Author Location	Sequence	Immunogen	Species(HLA)	References
RT(195–209)	RT( )	IGQHRTKIEELRQHL	Protein priming *in vitro*	human( )	[Manca (1995c)]
	• Protein priming induced T-cells that recognize peptide				
RT(196–215)	RT(351–370)	GQHRTKIEELRQHLLRWGLT	Protein priming *in vitro*	human( )	[Manca (1995a)]
	• Protein priming induced T-cells that recognize peptide, 4 clones from a single donor recognized this peptide				
RT(249–263)	RT( )	KDSWTWNDIQKLVGK	Protein priming *in vitro*	human( )	[Manca (1995c)]
	• Peptide stimulation of PBMC from non-infected individuals *in vitro* • Peptide priming did not induce T-cells that recognize whole protein				
RT(249–263)	RT(248–262 HXB2)	KDSSTVNDIQKLVGK	*in vitro* stimulation	human(DRS)	[Fenoglio (1999)]
	• RT pep23 epitope exhibited antagonistic activity against proliferation of gp120-specific T-cells when flanked by unrelated amino acid sequence • The glutathione S-transferase (GST)-peptide system can be used to display peptides; antigenicity was maintained when this peptide was expressed at the C-term end, but antagonism resulted when this peptide was expressed at the N-term end				
RT(249–263)	RT(248–262)	KDSWTVNDIQKLVGK	*in vitro* stimulation	human( )	[De Berardinis (1999)]
	• PBMC from donors GD (HLA DR 11; DRB52) and LD (HLA DR 11, 13; DRB52) recognized this epitope (pep23) • A subset of T-cell lines generated from these donors were capable of recognizing pep23 expressed on the surface of filamentous phage fd, fused to the major coat protein gVIIIp • This peptide was selected to study phage presentation of peptide sequences because it was known to serve as a T-cell helper determinant which could induce proliferation from a naive repertoire [Manca (1995b)]				
RT(251–261)	RT(250–260)	SSTVNDIQKLV	p66-APC *in vitro*	human(DR5(11.01))	[Manca (1996)]
	• 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 KDSSTVNDIQKLVGK peptide at the N-term end of GST stimulated Th cells, but not constructs linking at the C-term end • The C and N termini of GST are not intrinsically permissive or non-permissive, presentation is epitope specific (see FAILKCNNK for contrast)				

HXB2 Location	Author Location	Sequence	Immunogen	Species(HLA)	References
RT(258–272)	RT( )	QKLWGKLNWASQIYP	Peptide priming *in vitro*	human( )	[Manca (1995c)]
• Peptide stimulation of PBMC from non-infected individuals *in vitro* • Peptide priming did not induce T-cells that recognize whole protein					
RT(271–290)	RT(271–290 HXB2)	YPGIKVRQLCKLLRGTKALT	HIV-1 infection	human( )	[van der Burg (1999)]
• Epitope can bind to at least 5 different HLA-DR molecules, and peptide on target cells can elicit Th responses from PBMC cultures from healthy donors, however it does not seem to be processed properly from whole RT or virus					
RT(276–290)	RT( )	WRQLCKLLRGTKALT	Protein priming *in vitro*	human( )	[Manca (1995c)]
• Protein priming induced T-cells that recognize peptide					
RT(285–299)	RT( )	GTKALTEVIPLTEEA	Protein priming *in vitro*	human( )	[Manca (1995c)]
• Protein priming induced T-cells that recognize peptide					
RT(294–308)	RT( )	PLTEEAELELAENRE	Protein priming *in vitro*	human( )	[Manca (1995c)]
• Protein priming induced T-cells that recognize peptide					
RT(303–317)	RT( )	LAENREILKEPVHGV	Protein priming *in vitro*	human( )	[Manca (1995c)]
• Protein priming induced T-cells that recognize peptide					
RT(384–398)	RT( )	GKTPKFKLPIQKETW	Protein priming *in vitro*	human( )	[Manca (1995c)]
• Protein priming induced T-cells that recognize peptide					
RT(429–443)	RT( )	LEKEPIVGAETFYVD	Protein priming *in vitro*	human( )	[Manca (1995c)]
• Protein priming induced T-cells that recognize peptide					
RT(528–543)	RT(528–543 BRU)	KEKVYLAWVPAHKGIG	peptide	murine(H-$2^{f,k,d}$)	[Haas (1991)]
• T-cells from peptide-primed mice could be restimulated by native RT					
RT(553–560)	RT(720–730 LAI)	SAGIRKVLFLD	HIV-1 infection	human( )	[Schrier (1989)]
• Epitope spans the boundary between RT and Integrase • Stimulates T-cell proliferation in HIV-infected donors					