Table 9: **gp41**

:			*		
Location	WEAU	Sequence	Immunogen	Species(HLA)	Kelerences
gp41(557-565 IIIB)	gp41(47-55) NOTES:	RAIEAQQHL	HIV-1 infection	human	[Walkerpercom96]
	Epitope de studyRAIDAQQ	Epitope defined in the context of the Pediatric AIDS Foundation ARIEL Project, a mother-infant HIV transtudy RAIDAQQHL and RVIEAQQHL, naturally occurring variants, were found in mother and are recognized	OS Foundation ARIEL Promise ring variants, were found in the contract of th	ject, a mother-infant HIV transmission n mother and are recognized	/ transmission zed
gp41(557-565 IIIB)	gp41(47-55) RA] NOTES: • HIV IIIB protein with HIV-1 IIIB • KAIEAQQHL, or RAIEAQQHM, representation of the re	TES: HIV-1 infection hun HIV-1 IIIB With HIV-1 IIIB KAIEAQQHL, a variant found in HIV-1 NY5CG, was also recognized RAIEAQQHL, a variant found in HIV-1 JRCSF, was also recognized RAIDAQQHL, a variant found in HIV-1 ETR, was also recognized RAIKAQQHL, a variant found in HIV-1 CDC42, was also recognized	HIV-1 infection f CTL epitopes recognized was also recognized was also recognized s also recognized was also recognized	human(B51) [Sipsas97] by 3 lab workers accidentally infected	[Sipsas97] ntally infected
gp41(571-590 LAI)	gp41(60-79) NOTES: • VWGIKQI • VWGIKQI • VWGIKQI • Lysis of th strain • The infecti • The behavi only escapo	rec LAI gp160 vac- human (CD4+ CTL [Kent97] cinia HIVAC-1e and (DR-1)) FES: rgp160 VWGIKQLQARILAVERYLKD, present in HIV-1 LAI, was the immunizing strain VWGIKQLQARVLAVERYLKD, present in HIV-1 MN, was also recognized VWGIKQPQARVLAVERYLKD was the form carried by the autologous strain that infected the vaccinee Lysis of the target cells by CD4+ CTL was inhibited with the addition of the peptide representing the autologous strain The infecting virus epitope also antagonized the proliferative functions of the CD4+ CTL clone The behavior of the autologous strain presents a possible mechanism for vaccine failure since the infecting virus not only escapes CTL activity, but inhibits the ability of CTL to recognize other variants	rec LAI gp160 vaccinia HIVAC-1e and rgp160 LAI, was the immunizing 1 MN, was also recognize ried by the autologous straited with the addition of the coliferative functions of the ssible mechanism for vacof CTL to recognize other	human (CD4+ CTL (DR-1)) g strain d ain that infected the vacci he peptide representing t e CD4+ CTL clone cine failure since the infervariants	[Kent97] inee he autologous cting virus not
gp41(572-590 BRU)	gp41(62-80) NOTES: • CD4+ CTL	GIKQLQARILAVERYLKDQ	rgp160 BRU vaccine	human(DPw4.2)	[Hammond91]
gp41(575-599 IIIB)	gp41(65-89) NOTES: • Epitope rec	(65-89) QLQARILAVERYLKDQQ- ITES: LLGIWGCS Epitope recognized by CTL clone derived from CSF	HIV-1 infection	human(B14)	[Jassoy92]

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
gp41(583-592 PV22)	gp41(73-82)	VERYLKDQQL	HIV-1 infection	human(B14)	[Jassoy93]
	NOTES: • HIV-1 spe	OTES: • HIV-1 specific CTLs release γ -IFN, and α - and β -TNF	TNF		
gp41	gp41(74-82) NOTES: • CTL speci the marker responses	1(74-82) ERYLKDQQL HIV-1 infection human(B14) [Wagner98b TES: CTL specific for HIV epitopes were used to show that the mediators of both the cytolytic (granzyme A was used as the marker) and non-cytolytic (HIV-1 inhibitory chemokines MIP-1 α and RANTES were used as markers) anti-viral responses are localized within the CTL's cytotoxic granules	HIV-1 infection that the mediators of both emokines MIP-1 α and R granules	human(B14) n the cytolytic (granzyme ANTES were used as mar	[Wagner98b] A was used as rkers) anti-viral
gp41(591-599 SF2)	gp41(74-82)	ERYLKDQQL	HIV-1 infection	human(B14)	[Lieberman97]
	NOTES: Of 25 pati I subject One of the	TES: Of 25 patients, most had CTL specific for more than 1 HIV-1 protein 11 subjects had CTL that could recognize vaccinia expressed LAI gp160 One of these 11 had CTL response to this peptide The responding subject was HLA-A3, -A32, -B7, -B14	ın 1 HIV-1 protein expressed LAI gp160 -B14		
gp41(591-599 SF2)	gp41(74-82)	ERYLKDQQL	HIV-1 infection	human(B14)	[Cao97]
	NOTES: • The conse • The conse • The conse	TES: The consensus sequence for clades B, C, and D is ERYLKDQQL The consensus sequence for clade A is ERYLRDQQL and it is equally reactive The consensus sequence for clade E is ERYLKDQKF and it is not reactive	ERYLKDQQL QL and it is equally reac KF and it is not reactive	tive	
gp41	gp41(74-82) NOTES:	ERYLKDQQL	HIV-1 exposure	human(B14)	[RowlandJones98]
	 A CTL re epitopes the and conference The A and 	A CTL response was found in exposed but uninfected prostitutes from Nairobi using previously defined B clade epitopes that tended to be conserved in A and D clades – such cross-reactivity could protect against both A and D and confer protection in Nairobi where both subtypes are circulating The A and D subtype consensus are identical to the B clade epitope, ERyLkDQQL	ected prostitutes from N lades – such cross-reactions are circulating B clade epitope, ERyLl	airobi using previously defined B clade vity could protect against both A and D dDQQL	t both A and D
gp41(584-592)	gp41(74-82) ER' NOTES: • HIV IIIB protei	1(74-82) ERYLKDQQL HIV-1 infection hun TES: HIV IIIB proteins were used to define the range of CTL epitopes recognized by 3	HIV-1 infection CTL epitopes recognize	human(B14) [Sipsas97] d by 3 lab workers accidentally infected	[Sipsas97] entally infected

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
gp41(584-592)	gp41(74-82) NOTES:	ERYLKDQQL	HIV-1 infection	human(B14)	[Yang96]
	CD4+ cellClones speThe distinCTL can !	CD4+ cell lines acutely infected with HIV were studied to determine their susceptibility to lysis Clones specific for RT lysed HIV-1 infected cells at lower levels than Env or Gag specific clones. The distinction was thought to be due to lower expression of RT relative to Env and Gag CTL can lyse infected cells early after infection, possibly prior to viral production	udied to determine their s at lower levels than Env or pression of RT relative to I ossibly prior to viral prod	usceptibility to lysis by CTL Gag specific clones Env and Gag uction	Ľ
gp41(584-592)	gp41(74-82) NOTES:	ERYLKDQQL	HIV-1 infection	human(B14)	[Yang97]
	CTL inhibCTL produCTL suppr	CTL inhibit HIV-1 replication at effector cell concentrations comparable to those found <i>in vivo</i> CTL produced HIV-1-suppressive soluble factors – MIP-1 α , MIP-1 β , RANTES, after antigen-specific activation CTL suppress HIV replication more efficiently in HLA-matched cells	centrations comparable to $-$ MIP-1 α , MIP-1 β , RAN HLA-matched cells	those found <i>in vivo</i> TES, after antigen-specific	activation
gp41(584-592)	gp41(74-82)	ERYLKDQQL	HIV-1 infection	human	[Price95]
	• Study of c	Study of cytokines released by HIV-1 specific activated CTL	vated CTL		
gp41(584-592 PV22)	gp41(74-82)	ERYLKDQQL	HIV-1 infection	human(B14)	[Johnson92]
	NOTES: • Two overla	OTES: Two overlapping CTL epitopes were mapped with different HLA restriction (also see YLKDQQLL HLA-B8)	different HLA restriction	(also see YLKDQQLL HI	LA-B8)
gp41(584-592 PV22)	gp41(74-82)	ERYLKDQQL	HIV-1 infection	human(B14)	[Jassoy93]
	NOTES: • HIV-1 spe	TES: HIV-1 specific CTLs release γ -IFN, and α - and β -TNF	TNF		
gp41(584- 592 HXR2)	gp41(74-82)	ERYLKDQQL	HIV-1 infection	human(B14)	[Kalams94, Kalams96]
972,HAD2)	NOTES: • Longitudii • Persistence	YTES: Longitudinal study of T cell receptor usage in a single individual Persistence of oligoclonal response to this epitope for over 5 years	ngle individual for over 5 years		
gp41(584-592)	gp41(74-82) NOTES: • Epitope st	1(74-82) ERYLKDQQL FES: Epitope studied in the context of HLA-B14 binding	no CTL shown	human(B14)	[DiBrino94b]

gp41(584-591 SF2)	gp41(584-592)	gp41(584-592)	gp41(584-592)	Location
gp41(75-82) NOTES: Defined us anchors in This pepti RYLRDQ specific C	gp41(74-82) ER NOTES: CTL response 1 CTL responses 2 A diverse reperence 3/5 subjects sh ERYLQDQQL A minor CTL response was to 5 Some single ar in the center th	gp41(74-82) NOTES: Three out early, strop One of the	gp41(74-82) NOTES: • This pepti	WEAU
FES: Defined using reverse immunogenetics – 59 HLA-A*2402 binding peptides were predicted by searching for A*2402 anchors in HIV proteins, (Tyr at 2, and Phe, Leu or Ile at the C term) – 53 of the 59 peptides bound A*2402 This peptide induced CTL in 2/4 HIV-1+ people tested RYLRDQQL bound to A*2402 weakly, the epitope can be processed in a vaccinia construct and presented – two specific CTL clones were obtained	TIES: CTL response to this epitope was studied in 5 HLA-B14 positive persons CTL responses were detected in all five, and CTL clones were isolated from 4/5 A diverse repertoire of TCRs recognized this epitope, with similar fine specificities 3/5 subjects showed no variation in viral sequence, 2/5 had a dominate variant that resulted in poor recognition, ERYLQDQQL A minor CTL response specific for the ERYLQDQQL could be detected by two individuals, but the major CTL response was to the ERYLKDQQL form even when it was the minority form Some single amino acid substitutions were well tolerated by most of the CTL clones tested, but others, particularly in the center three amino acids positions, abrogated peptide stimulatory activity	1(74-82) ERYLKDQQL HIV-1 infection human [Borrow94] TES: Three out of five patients with HIV-1 symptomatic infection controlled their viral infection well and mounted an early, strong HIV-1 specific MHC restricted CTL response One of the three, study subject BORI, specifically recognized this peptide	.1(74-82) ERYLKDQQL HIV-1 infection human(B14) TIES: This peptide can be processed for HLA-B14 presentation in a TAP-1/2 independent pathway	Sequence
HIV-1 infection A*2402 binding peptides or Ile at the C term) – 53 of sted pe can be processed in a	HIV-1 infection A-B14 positive persons clones were isolated from pe, with similar fine species, 2/5 had a dominate varyout could be detected learn it was the minority form lerated by most of the CT depetide stimulatory activates.	HIV-1 infection ic infection controlled the response recognized this peptide	HIV-1 infection ntation in a TAP-1/2 indep	Immunogen
human(A*2402) [IkedaMoorwere predicted by searching for A*2402] the 59 peptides bound A*2402 vaccinia construct and presented – two	human(B14) 4/5 ficities ficiti	human sir viral infection well an	human(B14) bendent pathway	Species(HLA)
[IkedaMoore97] ng for A*2402 *2402 esented – two	[Kalams96] r recognition, ne major CTL s, particularly	[Borrow94] d mounted an	[Hammond95]	References

Location	WEAU	Sequence	Immunogen	${\bf Species(HLA)}$	References
gp41(584-591 SF2)	gp41(75-83)	RYLRDQQLL	HIV-1 infection	human(A*2402)	[IkedaMoore97]
	NOTES: Defined us anchors in This peption	TES: Defined using reverse immunogenetics – 59 HLA-A*2402 binding peptides were predicted by searching for A*2402 anchors in HIV proteins, (Tyr at 2, and Phe, Leu or IIe at the C term) – 53 of the 59 peptides bound A*2402 This peptide induced CTL in 4/4 HIV-1+ people tested	LA-A*2402 binding peptide eu or Ile at the C term) – 53 ble tested	s were predicted by searching for of the 59 peptides bound A*2402	ung for A*2402 A*2402
	RYLRDQ specific C'	RYLRDQQLL bound to A*2402 strongly, the epitope can be processed in a vaccinia construct and presented – two specific CTL clones were obtained	epitope can be processed in	a vaccinia construct and	presented – two
gp41(584-591	gp41(75-84)	RYLRDQQLLGI	HIV-1 infection	human(A*2402)	[IkedaMoore97]
SF2)	NOTES: • Defined us	FES: Defined using reverse immunogenetics – 59 HLA-A*2402 binding peptides were predicted by searching for A*2402	LA-A*2402 binding peptide	s were predicted by search	ing for A*2402
	anchors inThis peptiRYLRDO	anchors in HIV proteins, (Tyr at 2, and Phe, Leu or IIe at the C term) – 53 of the 59 peptides bound A*2402 This peptide induced CTL in $4/4$ HIV-1+ people tested RYLRDOOLLGI bound to A*2402 with medium strength, the epitope can be processed in a vaccinia construct and	eu or IIe at the C term) – 53 ple tested ium strength, the epitope car	of the 59 peptides bound A*2402 1 be processed in a vaccinia const	A*2402 a construct and
m/1/500 507	m/1(75 82)	(75 82) RVI KDOOI		human(R27)	[Chankar06]
gp41(590-597 LAI)	gp41(75-82)	RYLKDQQL	HIV-1 infection	human(B27)	[Shankar96]
gp41(586-593)	gp41(76-83)	YLKDQQLL	HIV-1 infection	human(B8)	[Johnson92]
	• Two overla	Two overlapping CTL epitopes were mapped with different HLA restriction (also	with different HLA restriction	วท (also see ERYLKDQQL HLA-B14)	L HLA-B14)
gp41(586-593)	gp41(76-83)	YLKDQQLL	no CTL shown	human(B8)	[Sutton93]
	• Predicted	redicted epitope based on B8 binding motifs, from larger peptide QLQARILAVERYLKDQQLLGIWGCS	, from larger peptide QLQA	RILAVERYLKDQQLLG	WGCS
gp41(76-83)	gp41(76-83) NOTES:	YLKDQQLL		human(B8)	[Goulder97c]
	 Included in 	Included in a study of the B8 binding motif			

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
gp41(584-591 NL43)	gp41(76-83)	YLKDQQLL	HIV-1 infection	human(A24)	[Dai92]
	NOTES: • The lysine (TES: The lysine (K) is critical for eliciting a HLA-A24 CTL response	TL response		
gp41(605-615	gp41(96-104)	TAVPWNASW	gp160 vaccinia	human(B35)	[Johnson94]
<i>L(H)</i>	NOTES: • Epitope for	OTES: • Epitope for vaccine induced CD8+ clone			
gp41(606-614 LAI)	gp41(96-104)	TAVPWNASW	gp160 vaccinia vaccine	human(B35)	[Johnson94c]
	NOTES: • HLA restric	TES: HLA restricted CTL response to epitope in HIV-1 vaccinia-env vaccinees	accinia-env vaccinees		
gp41(606-614 LAI)	gp41(96-104)	TAVPWNASW	gp160 vaccinia vaccine	human(B35)	[Hammond95]
	NOTES: • Peptide only	OTES: • Peptide only processed by a TAP-1/2-dependent pathway	thway		
gp41(606-614 HXB2)	gp41(96-104)	TAVPWNASW	synthetic peptide	human(B*3501)	[Ferris96]
	NOTES: • Natural form	TES: Natural form of this peptide is not glycosylated, suggesting initial Class I processing may occur in the cytosol	ggesting initial Class I pr	ocessing may occur in th	e cytosol
gp41(641-655	gp41(124-138)	EIDNYTNTIYTLLEE	HIV-1 infection	human	[Lieberman97]
3F2)	NOTES: Of 25 patier 11 subjects One of these The respond	Of 25 patients, most had CTL specific for more than 1 HIV-1 protein 11 subjects had CTL that could recognize vaccinia expressed LAI gp160 One of these 11 had CTL response to this peptide The responding subject was HLA-A1, A2, B51, and B57	n 1 HIV-1 protein expressed LAI gp160 1 B57		

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
gp41(679-687 SF2)	gp41(170-179)	WAIKIEIEMI	HIV-1 infection	human(A*2402)	[IkedaMoore97]
	NOTES: Defined usin anchors in H This peptide WYIKIFIFN specific CTI	Defined using reverse immunogenetics – 59 HLA-A*2402 binding peptides were predicted by searching for A*2402 anchors in HIV proteins, (Tyr at 2, and Phe, Leu or IIe at the C term) – 53 of the 59 peptides bound A*2402. This peptide induced CTL in 1/4 HIV-1+ people tested. WYIKIFIFMI bound to A*2402 strongly, the epitope can be processed in a vaccinia construct and presented – two specific CTL clones were obtained.	\$2402 binding peptides w le at the C term) – 53 of ed e can be processed in a '	vere predicted by searching for the 59 peptides bound A*2402 vaccinia construct and presente	ıg for A*2402 *2402 esented – two
gp41(701-720 BH10)	gp41(191-210)	VLSIVNRVRQGYSPLSFQTH	HIV-1 infection	human(A32)	[Safrit94a]
	NOTES: • Recognized	TES: Recognized by CTL derived from acute seroconverter	ST		
gp41(747-755)	gp41(237-245) NOTES: • Studied in the	941(237-245) RLVNGSLAL Studied in the context of HI A-A2 pentide hinding	HIV-1 infection	human(A2)	[Parker92]
		,			
gp41(606-614 LAI)	gp41(257-270) NOTES: • Peptide only • CTL from a	41(257-270) SYHRLRDLLLIVTR HI Prestide only processed by a TAP-1/2-dependent pathway CTL from an acute seroconverter	HIV-1 infection	human(A31)	[Hammond95]
gp41(766-774	gp41(258-266)	SYRRLRDLL	HIV-1 infection	human(A*2402)	[IkedaMoore97]
SF2)	NOTES: Defined usin anchors in H This peptide SYRRLRDI two specific	Defined using reverse immunogenetics – 59 HLA-A*2402 binding peptides were predicted by searching for A*2402 anchors in HIV proteins, (Tyr at 2, and Phe, Leu or IIe at the C term) – 53 of the 59 peptides bound A*2402 This peptide induced CTL in 1/4 HIV-1+ people tested SYRRLRDLL bound to A*2402 moderately, the epitope can be processed in a vaccinia construct and presented – two specific CTL clones were obtained	\$2402 binding peptides w le at the C term) – 53 of ed itope can be processed i	vere predicted by searching for the 59 peptides bound A*2402 n a vaccinia construct and pres	lg for A*2402 *2402 d presented −

788-809) gp4 788-809 gp4 91-800 gp4	Eocation gp41(769-777 BH10) gp41(768-778 NL43) gp41(768-778 NL43) gp41(770-780 BH10) gp41(788-809 gp41(788-809	weau sequence of the consensus per p41(259-267) RLF NOTES: NOTES: CD8+ T cell clone gp41(260-270) RLF NOTES: The consensus per price on the consensus per p41(260-270) RLF NOTES: NOTES: NOTES: ROTES: PREcognized by CT gp41(271-292) IVE	AU Sequence Immunogen Special Sequence Immunogen Immunogen Special C259-267) HRLRDLLLI HIV-1 infection huma Recognized by CTL derived from acute seroconverter I(260-270) RLRDLLLIVTR HIV-1 infection huma IES: The consensus peptide of clade B is RLRDLLLIVTR HIV-1 infection huma TES: The consensus peptide of clade B is RLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLLIVTR and it is less reactive The consensus peptide of clade D is SLRDLL	Immunogen HIV-1 infection HIV-1 infection HIV-1 infection HIV-1 infection HIV-1 infection RDFILIVTR and it is less read HIV-1 infection	nfection nfection nfection fection fection fection fection	affection human human hection human(A3.1) fection human(A3.1) fection human(A3) hection human(A31) hection human(A31) hection human(A31)
gp4 sp4 sp4 sp4 sp4 sp4 sp4 sp4 sp4 sp4 s	778	gp41(260-270) NOTES: The conser The conser	RLRDLLLIVTR usus peptide of clade B is RLRDLLLIV usus peptide of clades A, C and E is RI usus peptide of clade D is SLRDLLLIV	HIV-1 infection /TR /TR and it is less reac	s less	human(A3) s less reactive
gp41(271-292) IVELLGRRGWEALKYWW- NOTES: • CTL epitope defined by T cell line and peptide mappii gp41(271-292) IVELLGRRGWEALKYWW- NOTES: • HIV-specific CTL lines developed by ex vivo stimulati gp41(276-285) GRRGWEALKY NOTES: • Optimal peptide mapped by titration J. Lieberman, per	0	gp41(260-270) NOTES: • Recognize	RLRDLLLIVTR d by CTL derived from acute seroconv			human(A31)
gp4 • O	gp41(788-809 HXB2)	gp41(271-292)	IVELLGRRGWEALKYWW- NLLQY	HIV-1 infection		human(B27)
gp4 sp4		NOTES: • CTL epito	se defined by T cell line and peptide m	apping		
gp4 •	gp120(788-809)	gp41(271-292) NOTES:	IVELLGRRGWEALKYWW- NLLQY	HIV infection		human
NOTES: Optimal peptide mapped by titration J. Lieberman, per	mA1(791_800	• HIV-specif	ic CTL lines developed by ex vivo stim	ulation with peptide HIV infection		human(B27)
	LAI)	NOTES: • Optimal pe	ptide mapped by titration J. Lieberman	ı, per comm.		

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
gp41(791-799	gp41(276-284)	GRRRGWEALK	HIV-1 infection	human(B27)	[McMichael94]
(FOI)	NOTES: • Review of H • Also: J. Lieb	TES: Review of HIV CTL epitopes Also: J. Liebermann 1992 and pers. comm. J. Liebermann	rmann		
gp41(802-823 HXB2)	gp41(285-306) NOTES: • CTL epitope	41(285-306) YWWNLLQYWSQELKNSA- H VNLLN YTES: CTL epitope defined by T cell line and peptide mapping	HIV-1 infection	human	[Lieberman92]
gp41(814-823 LAI)	gp41(303-312)	SLLNATDIAV	MN rec gp160	human(A2)	[Dupuis95]
	NOTES: • Of two CTL	OTES: • Of two CTL clones, one reacted only with 815-823, the other with 814-823 and 815-823	he other with 814-823 a	nd 815-823	
gp41(814-823)	gp41(303-312) NOTES:	SLLNATDIAV	HIV-1 infection	human(A2)	[Kundu98]
	 Allogeneic d HIV-1 epitop 1/6 showed i proliferative SLLNATDI/ direct sequer or SLLNTTI CTL demons 	Allogeneic dendritic cells (DCs) were obtained from HLA-identical siblings, pulsed with rgp160 MN or A2 restricted HIV-1 epitope peptides, and infused monthly into six HIV-infected patients 1/6 showed increased env-specific CTL and increased lymphoproliferative responses, 2/6 showed increase only in proliferative responses, and 3/6 showed no change – pulsed DCs were well tolerated SLLNATDIAV is a conserved HLA-A2 epitope included in this study – 4/6 patients had this sequence as their HIV direct sequence, and 3 of these had a detectable CTL response – the other two had either the sequence SLFNAIDIAV or SLLNTTDIVV and no detectable CTL response CTL demonstrated against peptide-coated target, epitope is naturally processed and enhancible with vaccine	HLA-identical siblings, p. HIV-infected patients ad lymphoproliferative repulsed DCs were well to ided in this study – 4/6 presponse – the other two ope is naturally processed.	ulsed with rgp160 MN or A2 restricted sponses, 2/6 showed increase only in lerated atients had this sequence as their HIV had either the sequence SLFNAIDIAV and and enhancible with vaccine	A2 restricted rease only in as their HIV LFNAIDIAV ccine
gp41(815-823 LAI)	gp41(304-312)	LLNATDIAV	MN rec gp160	human(A2)	[Dupuis95]
!	NOTES: • Of two CTL	OTES: • Of two CTL clones, one reacted only with 815-823, the other with 814-823 and 815-823	he other with 814-823 a	ad 815-823	
env(815-823)	gp41(304-312) NOTES:	1(304-312) LLNATAIAV HIV-1 infection human(A2) [Kmieciak9 TES:	HIV-1 infection	human(A2)	[Kmieciak98]

Tootion	TATE ATT	Society	Immunocon	Species (HI A)	Defences
Location	WEAU	Sequence	пиппиподен	Species(IIIIA)	Veletelices
gp120(844-863)	gp41(327-346) NOTES: • HIV-specific	1(327-346) YRAIRHIPRRIRQGLERILL HIV infection TES: HIV-specific CTL lines developed by <i>ex vivo</i> stimulation with peptide	HIV infection ation with peptide	human	[Lieberman95]
gp120(844-863 SF2)	gp41(327-346)	YRAIRHIPRRIRQGLERILL	HIV infection	human	[Lieberman97]
	NOTES: Of 25 patien 11 subjects 1 One of these The respond	FES: Of 25 patients, most had CTL specific for more than 1 HIV-1 protein 11 subjects had CTL that could recognize vaccinia expressed LAI gp160 One of these 11 had CTL response to this peptide The responding subject was HLA-A2, A26, B7, and B38	1 HIV-1 protein xpressed LAI gp160 B38		
gp120(844-863 LAI)	gp41(327-346)	YRAIRHIPRRIRQGLERILL	HIV-1 infection	human(B35)	[Shankar96]
gp41(834-848 IIIB)	gp41(317-331) NOTES:	DRVIEVVQGAYRAIR	vaccinia IIIB gp160	$\mathrm{murine}(\mathrm{H-2}^{d,p,u,q})$	[Shirai92]
		*			
gp41(834-848 IIIB)	gp41(317-331) NOTES: • Multiple mu	I(317-331) DRVIEVVQGAYRAIR rec vaccinia gp160 murine(H-2 ^{d,p,u,q}) [Shiraif res: Multiple murine MHC can cross-present this epitope (HP53), and P18 RIQRGPGRAFVTIGK, to specific CTL	rec vaccinia gp160 (HP53), and P18 RIQR	murine(H- $2^{d,p,u,q}$) GPGRAFVTIGK, to spec	[Shirai96] cific CTL
gp41(834-848	gp41(317-331)	DRVIEVVQGAYRAIR	HIV exposure	human	[Pinto95]
11112)	NOTES: • CTL and T h	OTES: • CTL and T helper cell reactivity in healthcare workers exposed to HIV	rs exposed to HIV		
gp41(834-848	gp41(317-331)	DRVIEVVQGAYRAIR	HIV-1 infection	human(A2)	[Clerici91]
шы	NOTES: • Helper and c	OTES: Helper and cytotoxic T cells can be stimulated by this peptide (Th4)	is peptide (Th4)		
gp41(829-837	gp41(318-326)	RVIEVLQRA	MN rec gp160	human(A2)	[Dupuis95]
	NOTES: • CTL from H	TES: CTL from HLA-A2 positive subject react with this peptide	eptide		

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
gp41(831-853)	gp41(320-344)	IEVVQGAYRAIIRHIPR- RIRQGLERI	HIV-1 infection	human	[Price95]
	NOTES: • Study of cyto	OTES: • Study of cytokines released by HIV-1 specific activated CTL	ted CTL		
gp41(842-850 IIIB	gp41(???)	???	HIV-1 infection	human(B7)	[Pantaleo97, Soudeyns97]
	NOTES: • Clonotype-sp clones prefer of virus	TES: Clonotype-specific PCR and analysis of <i>in vivo</i> HIV-specific CTL showed that in early infection, HIV-specific CTL clones preferentially accumulate in blood rather than lymph nodes, and that they accumulate prior to down regulation of virus	specific CTL showed tha lymph nodes, and that the	t in early infection, HIV-	specific CTL vn regulation
gp41(844-863 HXB2)	gp41(327-346)	YRAIRHIPRRIRQGLERILL	HIV infection	human(B8)	[Lieberman92]
	NOTES: • CTL epitope	OTES: CTL epitope defined by T cell line and peptide mapping	oing		
gp41(848-856 LAI)	gp41(333-341)	IPRRIRQGL		human(B7)	[Brander95a]
	NOTES: • Epitope defire study	TES: Epitope defined in the context of the Pediatric AIDS Foundation ARIEL Project, a study	Foundation ARIEL Proj	ect, a mother-infant HIV transmission	transmission
gp41(848-856 LAI)	gp41(333-341)	IPRRIRQGL	HIV-1 infection	human(B7)	[Cao97]
!	NOTES: • The consens: • The consens:	TES: The consensus peptide of clades A, B, D, and F is IPRRIRQGL The consensus peptide of clade C is IPRRIRQGF, and it is equally reactive	RRIRQGL d it is equally reactive		
gp41(852-863 HXB2)	gp41(335-346)	RRIRQGLERILL	HIV-1 infection	human(A30,B8)	[Lieberman92]
	NOTES: • CTL epitope	OTES: CTL epitope defined by T cell line and peptide mapping	oing		
gp41(852-863 LAI)	gp41(335-346)	RRIRQGLERILL	HIV-1 infection	human(B7)	[Shankar96]