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HTLV	-----	-----	-----	-----	-----	-----	-----
HIV1B5	-----	-----	-----	-----	FFREDLAF	Q GKAREFS	QTRANSPTIS
HIV1H2	-----	-----	-----	-----	FFREDLAF	Q GKAREFS	QT-----
HIV1MN	-----	-----	-----	-----	FFREDLAF	Q GKAE-FS	-----
HIV1N5	-----	-----	-----	-----	FFREDLAF	Q GKAREFS	QT-----
HIV1ND	-----	-----	-----	-----	FFREDLAF	Q GKAGEFS	QT-----
HIV1OY	-----	-----	-----	-----	FFREDLAF	Q GKAREFS	QT-----
HIV1PV	-----	-----	-----	-----	FFREDLAF	Q GKAREFS	QTRANSPTIS
HIV1U4	-----	-----	-----	-----	FFRENLA	Q GEAREFS	QTRANSPTS
HIV1Z2	-----	-----	-----	-----	FFREDLAF	Q GKAGELS	QT-----
HIV2CA	-----	-----	-----	-----	-----	-----	-----
HIV2D1	VLELWKGG	GETVPSTQ	GLLEFVWQ	HHGKLP	GGFRDWPL	EEAPQFPR	PSSTGANTN
HIV2G1	-----	-----	MWQDR	RHGKMPR	RFFRDGPT	EAAPQLPR	PSSSGADTN
HIV2KR	-----	-----	-----	-----	-----	EAAPQLPR	PSSSGADTN
HIV2RO	-----	-----	-----	-----	-----	EASQLPRD	PSPAGADTN
HIV2SB	-----	-----	-----	-----	-----	EAPQLPRG	PSSAGADTN
HIV2ST	-----	-----	-----	-----	-----	WFFRAWTM	PKFAGADTN
SIVCZ	-----	-----	-----	-----	-----	EAPQLPRG	PKFAGADTN
Smanga_S4	-----	-----	-----	-----	-----	-----	-----
Smanga_SP	-----	-----	-----	-----	-----	-----	-----

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HTLV	-----	-----	-----	-----	-----	-----	-----								
HIV1B5	SEQTRANS	RRELO	-----	VW	GRDNNSP	SEA	GADRQG	TVSFNFP	QIT	LWQRPLV	TIK				
HIV1H2	-----	RANSPT	RRELO	-----	VW	GRDNNSP	SEA	-----	GADRQG	TVSFNFP	QIT	LWQRPLV	TIK		
HIV1MN	SEQTRANS	RRELO	-----	VW	GRDNNSL	SEA	GEEAGDD	RQG	PVSFSFP	QIT	LWQRPIV	TIK			
HIV1N5	-----	RANSPT	RRELO	-----	VW	GRDNNSL	SEA	-----	GADRQG	TVSFNFP	QIT	LWQRPLV	TIK		
HIV1ND	-----	RANSPT	SREL	-----	VW	GGDNP	LSET	-----	GAERQG	TVSFNFP	QIT	LWQRPLV	TIK		
HIV1OY	-----	RANSPT	SREL	-----	VW	GRDNNSP	SEA	-----	GADRQG	TVSFNFP	QIT	LWQRPIV	TIK		
HIV1PV	SEQTRANS	RRELO	-----	VW	GRDNNSP	SEA	-----	GADRQG	TVSFNFP	QIT	LWQRPLV	TIK			
HIV1U4	-----	-----	-----	-----	LW	DGGK	-----	DL	PCETGA	ERQG	TDSFNF	PQIT	LWQRPLV	TIK	
HIV1Z2	-----	RANSPT	SREL	-----	VW	GRDNP	LSET	-----	GAERQG	TVSFNFP	QIT	LWQRPLV	TIK		
HIV2CA	STPIGSS	SGS	TGEIYA	AAREK	AEGAE	TETIQ	RGDRGL	TAPR	TRRGP	MOG	D	NRGLA	APQFS	LWKRPV	VTAH
HIV2D1	STPNRSS	SGP	VGEIYA	AAREK	AERAE	GETIQ	GGDGL	TAPR	AGRD	APQ	G	DRGLA	TPQFS	LWKRPV	VTAH
HIV2G1	STPSRSS	SGS	IGKIYA	AAGER	AEGAE	GETIQ	RGDRGL	TAPR	AGK	STS	Q	DRGLA	APQFS	LWKRPV	VTAH
HIV2KR	STPSRPS	SRP	AREVLA	AAREE	AERA	ENETIQ	GGDRGL	TAPR	TRRD	TTQ	R	DRGFA	APQFS	LWKRPV	VTAH
HIV2RO	STPSGSS	SGS	TGEIYA	AAREK	TERAE	RTIQ	GSDRGL	TAPR	AGGD	TIQ	GAT	NRGLA	APQFS	LWKRPV	VTAH
HIV2SB	STPNGSS	SGP	TGEVHA	AAREK	TERAE	TKTIQ	RSDRGL	LAASR	ARRD	TTQ	R	DRGLA	APQFS	LWKRPV	VTAH
HIV2ST	STPDRPS	SRGP	TREVHA	AAREK	AERA	EREAIQ	RSDRGL	LAASR	ETRD	TMQ	R	DRGLA	APQFS	LWKRPV	VTAH
SIVCZ	-----	T	DRELW	-----	VP	GGRE	-----	P	GEE	-----	RGREQ	SISTNL	PQIT	LWQRPL	IPVK
Smanga_S4	CSPRGSS	CGS	TEELHE	DGQK	AEGE	QRETLQ	G	-----	-----	-----	G	DRGFA	APQFS	LWRRPV	VTAH
Smanga_SP	CSPRGSS	CGS	TEELHE	DGQK	AEGE	QRETLQ	G	-----	-----	-----	G	NGGFA	APQFS	LWRRPV	VTAH

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HTLV	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
HIV1B5	IGGOLKE	ALL	DTGADD	TVLE	EMSLP	GRWKP	KMIGGI	GFFI	KVROYD	QILI	EICGHK	AIGT	VLVGPT	TPVNI		
HIV1H2	IGGOLKE	ALL	DTGADD	TVLE	EMSLP	GRWKP	KMIGGI	GFFI	KVROYD	QILI	EICGHK	AIGT	VLVGPT	TPVNI		
HIV1MN	IGGOLKE	ALL	DTGADD	TVLG	EMNLP	RRWKP	KMIGGI	GFFI	KVROYD	QITI	GICGHK	AIGT	VLVGPT	TPVNI		
HIV1N5	IGGOLKE	ALL	DTGADD	TVLE	EMNLP	GRWKP	KMIGGI	GFFI	KVROYD	QILI	EICGHK	AIGT	VLVGPT	TPVNI		
HIV1ND	IGGOLKE	ALL	DTGADD	TVLE	EINLP	PKWKP	KMIGGI	GFFI	KVROYD	QILI	EICGYK	AMGT	VLVGPT	TPVNI		
HIV1OY	IGGOLKE	ALL	DTGADD	TVLE	EMNLP	GRWKP	KMIGGI	GFFI	KVROYD	QILI	EICGHK	AIGT	VLVGPT	TPVNI		
HIV1PV	IGGOLKE	ALL	DTGADD	TVLE	EMSLP	GRWKP	KMIGGI	GFFI	KVROYD	QILI	EICGHK	AIGT	VLVGPT	TPVNI		
HIV1U4	IGGOLKE	ALL	DTGADD	TVLE	DINLP	PKWKP	KIIGGI	GFFI	KVROYD	QILI	EICGKT	TIGT	VLVGPT	TPVNI		
HIV1Z2	IGGOLKE	ALL	DTGADD	TVLE	EMNLP	PKWKP	KMIGGI	GFFI	KVROYD	QILI	EICGHK	AIGT	VLVGPT	TPVNI		
HIV2CA	IEGQPVE	VLL	DTGADD	SIVA	GIELG	SNYSP	KIVGGI	GFFI	NTKEYK	NVEI	EVLGKR	VRAT	IMTGDT	TPINI		
HIV2D1	IEDQPVE	VLL	DTGADD	SIVA	GIELG	DNYP	KIVGGI	GFFI	NTKEYK	NVEI	KVLNKR	VRAT	IMTGDT	TPINI		
HIV2G1	IEVQPVE	VLL	DTGADD	SIVA	GIQLG	DNYP	KIVGGI	GFFI	NTKEI	KNIEI	KVLNKR	VRAT	IMTGDT	TPINI		
HIV2KR	VEGOPVE	VLL	DTGADD	SIVA	GIELG	SNYSP	KIVGGI	GFFI	NTKEYK	NVEI	KVLNKR	VRAT	IMTGDT	TPINI		
HIV2RO	IEGQPVE	VLL	DTGADD	SIVA	GIELG	SNYSP	KIVGGI	GFFI	NTKEYK	NVEI	EVLNKR	VRAT	IMTGDT	TPINI		
HIV2SB	IEDQPVE	VLL	DTGADD	SIVA	GIELG	SNYSP	KIVGGI	GFFI	NTKEYK	DVEI	RVLNKR	VRAT	IMTGDT	TPINI		
HIV2ST	VEGOPVE	VLL	DTGADD	SIVA	GVELG	SNYSP	KIVGGI	GFFI	NTKEYK	NVEI	RVLNKR	VRAT	IMTGDT	TPINI		
SIVCZ	VEGOLCE	ALL	DTGADD	TVIE	RIQLQ	GLWKP	KMIGGI	GFFI	KVKQ	FDNVHI	EIEGRK	VVGT	VLVGPT	TPVNI		
Smanga_S4	IEEQPVE	VLL	DTGADD	SIVA	GIELG	PNYTP	KIVGGI	GFFI	NTKEYK	DVKI	KVLGK	VIKGT	IMTGDT	TPINI		
Smanga_SP	IEEQPVE	VLL	DTGADD	SIVA	GIELG	PNYTP	KIVGGI	GFFI	NTKEYK	DVKI	KVLGK	VIKGT	IMTGDT	TPINI		

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HTLV	-GKK-----AA	CNL-----ANT	GASRPWARTP	PKAPRNQVPP	FKPERLQALQ	HLVRKALEAG	HIE--PYTGP
HIV1B5	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALV	EICTEMEKEG	KISKIGPENP
HIV1H2	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALV	EICTEMEKEG	KISKIGPENP
HIV1MN	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALI	EICTEMEKEG	KISKIGPENP
HIV1N5	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALV	EICTEMEKEG	KISKIGPENP
HIV1ND	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALT	EICTEMEKEG	KISRIGPENP
HIV1OY	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKVLI	EICTEMEKEG	KISKVGPENP
HIV1PV	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALV	EICTEMEKEG	KISKIGPENP
HIV1U4	IGRNMLTQIG	CTLNFPISPI	ETVPVKLKPE	MDGPKVKQWP	LTEEKIKALT	EICNEMEKEG	KISKIGPENP
HIV1Z2	IGRNLLTQIG	CTLNFPISPI	ETVPVKLKPG	MDGPKVKQWP	LTEEKIKALT	EICTEMEKEG	KISRVGPENP
HIV2CA	FGRNILTALG	MSLNLPVAKI	EPIKIMLKPG	KDGPRLRQWP	LTKEKIEALK	EICEKMEKEG	QLEEAPPTNP
HIV2D1	FGRNILTALG	MSLNLPVAKL	DPIKVTLKPG	KDGPRLKQWP	LTKEKIEALK	EICEKMEKEG	QLEEAPPTNP
HIV2G1	FGRNILTALG	MSLNLPVAKI	EPIKVTLKPG	KDGPRLRQWP	LTKEKIEALR	EICEKMEKEG	QLEEAPPTNP
HIV2KR	FGRNILTALG	MSLNLPVAKV	DPIKVILKPG	KDGPVKRQWP	LTKEKIEALK	EICEKMEKEG	QLEEAPPTNP
HIV2RO	FGRNILTALG	MSLNLPVAKV	EPIKIMLKPG	KDGPVKRQWP	LTKEKIEALK	EICEKMEKEG	QLEEAPPTNP
HIV2SB	FGRNILTALG	MSLNLPVAKI	EPVKVTLKPG	KDGPQRQWP	LTREKIEALR	EICEKMEKEG	QLEEAPPTNP
HIV2ST	FGRNILTALG	MSLNLPVAKI	EPIKIMLKPG	KDGPVKRQWP	LTKEKIEALK	EICEKMEKEG	QLEEAPPTNP
SIVCZ	IGRNILTQIG	CTLVFPISSI	ETVPVKLKPG	MDGPKVKQWP	LSAEKIKALT	EICQEMEKEG	KISKIGPENP
Smanga_S4	FGRNLLTAMG	MSLNLPVAKV	EPIKVTLKPG	KEGPKLRQWP	LSKEKIIALR	EICEKMEKDG	QLEEAPPTNP
Smanga_SP	FGRNLLTAMG	MSLNLPVAKV	EPIKVTLKPG	KDGPVKLRQWP	LSKEKIIALR	EICEKMEKDG	QLEEAPPTNP

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HTLV	GNNPVFPVKK	A-NGTWRFIH	DLRATNSLTI	DLSSSSPGPP	DLSSLPTTLA	HLQIDLRDA	FFQIPLPKQF
HIV1B5	YNTPVFAIKK	KDSTKWRKLV	DFRELNRRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDEDF
HIV1H2	YNTPVFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDEDF
HIV1MN	YNTPVFAIKK	KDSTKWRKLV	DFRELNKKTQ	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDKDF
HIV1N5	YNTPVFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDKDF
HIV1ND	YNTPIFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDKDF
HIV1OY	YNTPVFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDKDF
HIV1PV	YNTPVFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDEDF
HIV1U4	YNTPVFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HTAGLKK-KK	SVTVLDVGDA	YFSVPLDESF
HIV1Z2	YNTPIFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSVPLDKDF
HIV2CA	YNTPTFAIRK	KDKNKWRMLI	DFRELNKVTQ	DFTEIQLGIP	HPAGLAK-KR	RITVLDVGDA	YFSIPLHEDF
HIV2D1	YNTPTFAIKK	KDKNKWRMLI	DFRELNRVTO	DFTEIQLGIP	HPAGLAK-KK	RITVLDVGDA	YFSIPLHEDF
HIV2G1	YNTPTFAIKK	KDKNKWRMLI	DFRELNRVTO	DFTEIQLGIP	HPAGLAK-KK	RITVLDVGDA	YFSIPLHEDF
HIV2KR	YNTPTFAIKK	KDKNKWRMLI	DFRELNKVTQ	EFTEIQLGIP	HPAGLAK-KR	RITVLDIGDA	YFSIPLHEDF
HIV2RO	YNTPTFAIKK	KDKNKWRMLI	DFRELNKVTQ	DFTEIQLGIP	HPAGLAK-KR	RITVLDVGDA	YFSIPLHEDF
HIV2SB	YNTPTFAIKK	KDKNKWRMLI	DFRELNKVTQ	DFTEVQLGIP	HPAGLAK-KR	RITVLDVGDA	YFSIPLYEDF
HIV2ST	YNTPTFAIKK	KDKNKWRMLI	DFRELNKVTQ	DFTEIQLGIP	HPAGLAK-KK	RITVLDVGDA	YFSIPLHEDF
SIVCZ	YNTPIFAIKK	KDSTKWRKLV	DFRELNKRTO	DFWEVQLGIP	HPAGLKK-KK	SVTVLDVGDA	YFSIPLDKDF
Smanga_S4	YNTPTFAIKK	KDKNKWRMLI	DFRELNKVTQ	DFTEVQLGIP	HPAGLAK-RR	RITVLDVGDA	YFSIPLDEEF
Smanga_SP	YNTPTFAIKK	KDKNKWRMLI	DFRELNKVTQ	DFTEVQLGIP	HPAGLAK-RR	RITVLDVGDA	YFSIPLDEEF

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HTLV	QPYFAFTVPO	QCNYGPGTRY	AWKVLPOGFK	NSPTLFEMQL	AHILQPIRQA	FPOCTILOYM	DDILLASPSH
HIV1B5	RKYTAFTIPS	INNETPGSGY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPDIVIYQYM	DDLYVGSdle
HIV1H2	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPDIVIYQYM	DDLYVGSdle
HIV1MN	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPDIVIYQYM	DDLYVGSdle
HIV1N5	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPDIVIYQYM	DDLYVGSdle
HIV1ND	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPEIVIYQYM	DDLYVGSdle
HIV1OY	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPDIVIYQYM	DDLYVGSdle
HIV1PV	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPDIVIYQYM	DDLYVGSdle
HIV1U4	RKYTAFTIPS	INNETPGVRY	QYNVLPQGWK	GSPSIFQSSM	TKILEPFRSQ	HPDIVIYQYM	DDLYVGSdle
HIV1Z2	RKYTAFTIPS	INNETPGIRY	QYNVLPQGWK	GSPAIFQSSM	TKILEPFRKQ	NPEIVIYQYM	DDLYVGSdle
HIV2CA	ROYTAFTLPS	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQYTM	QVLEPFRKA	NSDVIIIQYM	DDILIASDRT
HIV2D1	ROYTAFTLPS	VNNAEPEKRY	VYKVLPOGWK	GSPAIFQFMM	QVLEPFRKA	NPVILIYQYM	DDILIASDRT
HIV2G1	ROYTAFTLPS	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQHTM	QVLEPFRKA	NPVILIYQYM	DDILIASDRT
HIV2KR	ROYTAFTLPT	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQHTM	QVLEPFRKA	NPDIVIYQYM	DDILIASDRT
HIV2RO	RPYTAFTLPS	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQHTM	QVLEPFRKA	NKDVIIIQYM	DDILIASDRT
HIV2SB	ROYTAFTLPS	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQYTM	QVLEPFRKA	NPDVIIYQYM	DDILIASDRT
HIV2ST	ROYTAFTLPS	INNAEPGKRY	IYKVSPOGWK	GSPAIFQYTM	QVLEPFRKA	NPDIILYQYM	DDILIASDRT
SIVCZ	RKYTAFTIPS	INNETPGVRY	QYNVLPQGWK	GSPSIFQSSM	TKILEPFREK	NPDIITYQYM	DDLYVGSdle
Smanga_S4	ROYTAFTLPS	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQYTM	RNVLEPFRKA	NPDVTLIYQYM	DDILIASDRT
Smanga_SP	ROYTAFTLPS	VNNAEPGKRY	IYKVLPOGWK	GSPAIFQHTM	RNVLEPFRKA	NPDVTLIYQYM	DDILIASDRT

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HTLV	EDLLLLS-FA	TMASLISHGL	PVSENKTOQT	PGTIKFLGQI	ISPNHLYDA	VPTVPIRSRW	ALPELQALLG
HIV1B5	IGOHRTKIEE	LROHLLRWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTIQP	I-VLPEKDSW	TVNDIQKLVG
HIV1H2	IGOHRTKIEE	LROHLLRWGL	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-VLPEKDSW	TVNDIQKLVG
HIV1MN	IGOHRAKIEE	LRRHLLRWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-VLPEKDSW	TVNDIQKLVG
HIV1N5	IGOHRTKIEE	LROHLLRWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-VLPEKDSW	TVNDIQKLVG
HIV1ND	IGOHRTKIEE	LREHLLRWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-NLPEKESW	TVNDIQKLVG
HIV1OY	IGOHRTKIEE	LROHLLRWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-MLPEKDSW	TVNDIQKLVG
HIV1PV	IGOHRTKIEE	LROHLLRWGL	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-VLPEKDSW	TVNDIQKLVG
HIV1U4	IGOHRAKIEE	LRAHLLSWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-QLPEKDSW	TVNDIQKLVG
HIV1Z2	IGOHRTKIEE	LREHLLRWGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQS	I-KLPEKESW	TVNDIQKLVG
HIV2CA	DLEHDKVVLQ	LKELLNGLGF	STPDEKFQKD	P-PYRWMGYE	LWPTKWKLOK	I-QLPQKEVW	TVNDIQKLVG
HIV2D1	GLEHDKVVLQ	LKELLNGLGF	STPDEKFQKD	P-PFQWMGYE	LWPTKWKLOK	I-QLPQKEIW	TVNDIQKLVG
HIV2G1	GLEHDKVVLQ	LKELLNGLGF	STPDEKFQKD	P-PLQWMGYE	LWPTKWKLOK	L-QLPQKEIW	TVNDIQKLVG
HIV2KR	DLEHDRVVLQ	LKELLNGLGF	STPDEKFQKD	P-PYKWMGYE	LWPTKWKLOK	I-QLPQKEVW	TVNDIQKLVG
HIV2RO	DLEHDRVVLQ	LKELLNGLGF	STPDEKFQKD	P-PYHWMGYE	LWPTKWKLOK	I-QLPQKEIW	TVNDIQKLVG
HIV2SB	DLEHDKVVLQ	LKELLNGLGF	STPDEKFQKD	P-PYQWMGYE	LWPTKWKLOK	I-QLPQKEVW	TVNDIQKLVG
HIV2ST	DLEHDRVVLQ	LKELLNGLGF	STPDEKFQKD	P-PYQWMGYE	LWPTKWKLQR	I-QLPQKEVW	TVNDIQKLVG
SIVCZ	IDOHRKVEE	LROHLLKMGF	TTPDKKHQKE	P-PFLWMGYE	LHPDKWTVQP	I-QLPEKEVW	TVNDIQKLIG
Smanga_S4	DLEHDRVVLQ	LKELLNGLGF	STPEEFQKD	P-PFQWMGYE	LWPTKWKLOK	I-ELPQRETW	TVNDIQKLVG
Smanga_SP	DLEHDRVVLQ	LKELLNSIGF	STPEEFQKD	P-PFQWMGYE	LWPTKWKLOK	I-ELPQRETW	TVNDIQKLVG

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HTLV	EIQVWSKGTIP	TLRQPLHSLY	CALQRHTDPR	-DQIYLNPSQ	VQSLVQLRQA	LSQNCRSRLV	QTLPLLGAIM
HIV1B5	KLNWASQIYP	GIKVR---QL	CKLLRGTKAL	TEVIPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1H2	KLNWASQIYP	GIKVR---QL	CKLLRGTKAL	TEVIPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1MN	KLNWASQIYA	GIKVK---QL	CKLLRGTKAL	TEVIPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1N5	KLNWASQIYA	GIKVR---QL	CKLLRGTKAL	TEVVPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1ND	KLNWASQIYA	GIKVK---QL	CKLLRGTKAL	TEVVPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1OY	KLNWASQIYA	GIKVK---NL	CKLLRGTKAL	TEVIPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1PV	KLNWASQIYP	GIKVR---QL	CKLLRGTKAL	TEVIPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV1U4	KLNWASQIYA	GIKVK---QL	CKLLRGAKAL	TDIVTLTEEA	ELELAENREI	LKDPVHGVVY	DPSKD-----
HIV1Z2	KLNWASQIYP	GIKVR---QL	CKLLRGTKAL	TEVIPLTEEA	ELELAENREI	LKEPVHGVVY	DPSKD-----
HIV2CA	VLNWAAQIYP	GIKTK---HL	CRLIRGKMTL	TEEVQWTELA	EAELEENRII	LSQEQEGHYI	QEEKE-----
HIV2D1	VLNWAAQIYP	GIKTK---HL	CKLIRGKMTL	TEEVQWTELA	EAELEENKII	LSQEQEGSYI	QEEKE-----
HIV2G1	VLNWAAQIYP	GIKTK---HL	CRLIKGKMTL	TEEVQWTELA	EAELEENKII	LSQEQEGSYI	QEEKE-----
HIV2KR	VLNWAAQIYP	GIKTK---HL	CRLIRGKMTL	TEEVQWTELA	EAELEENKII	LSQEQEGCYI	QEEKE-----
HIV2RO	VLNWAAQIYP	GIKTK---HL	CRLIRGKMTL	TEEVQWTELA	EAELEENRII	LSQEQEGHYI	QEEKE-----
HIV2SB	VLNWAAQIYP	GIKTK---HL	CKLIRGKMTL	TEEVQWTELA	EAELEENKII	LSQEQEGHYI	QEEKE-----
HIV2ST	VLNWAAQIYP	GIKTR---NL	CRLIRGKMTL	TEEVQWTELA	EAELEENKII	LSQEQEGCYI	QEEKE-----
SIVCZ	KLNWASQIYP	GIKIK---QL	CKLIRGKTKL	TDVVPLTPEA	ELELAENREI	VSTPVHGVVY	DPDKE-----
Smanga_S4	VLNWAAQIYP	GIKTK---HL	CRLIRGKMTL	TEEVQWTEMA	EAEYEENKII	LSQEQEGCYI	QEGKP-----
Smanga_SP	VLNWAAQIYP	GIKTK---HL	CRLIRGKMTL	TEEVQWTEMA	EAEYEENKII	LSQEQEGCYI	QEGKP-----

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HTLV	LTLTGTTVV	FOSKEQWPLV	WLHAPLPHTS	QCPWGQLLAS	AVLLLDKYTL	QSYGLLCQTI	HNHISTQTFN
HIV1B5	----LIAEIQ	KQGQGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLT
HIV1H2	----LIAEIQ	KQGQGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLT
HIV1MN	----LIAEIQ	KQGQGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLT
HIV1N5	----LIAEIQ	KQGQGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLT
HIV1ND	----LIAEIQ	KQGDGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	TR-----G--	AHTNDVKQLT
HIV1OY	----LVAELQ	KQGQGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLT
HIV1PV	----LIAEIQ	KQGQGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLT
HIV1U4	----LVAEIQ	KQGDQWTYQ	IYQEPFK---	-----	-NLKTGKYAR	KR-----S--	AHTNDVKQLT
HIV1Z2	----LIAEIQ	KQGHGWTYQ	IYQEPFK---	-----	-NLKTGKYAR	MR-----G--	AHTNDVKQLA
HIV2CA	----LEATVQ	KDQDNQWYK	IHQEE-K---	-----	-ILKVGKYAK	IK-----H--	THTNGVKLLA
HIV2D1	----LEATVI	KSQDNQWAYK	IHQGE-R---	-----	-VLKVGKYAK	IK-----N--	THTNGVRLLA
HIV2G1	----LEATIQ	KNQDNQWYK	IHQEE-K---	-----	-ILKVGKYAK	IK-----N--	THTNGVRLLA
HIV2KR	----LEATVQ	KDQDNQWYK	IHQEE-K---	-----	-ILKVGKYAK	IK-----N--	THTNGVRLLA
HIV2RO	----LEATVQ	KDQENQWYK	IHQEE-K---	-----	-ILKVGKYAK	VK-----N--	THTNGIRLLA
HIV2SB	----LEATVQ	KDQDNQWYK	VHQEE-K---	-----	-ILKVGKYAK	IK-----N--	THTNGVRLLA
HIV2ST	----LEATVQ	KDQDNQWYK	IHQGG-K---	-----	-ILKVGKYAK	VK-----N--	THTNGVRLLA
SIVCZ	----LIAEIQ	KQGNQWTYQ	IFQEPFK---	-----	-NLKTGKYAR	QR-----S--	AHTNDIRQLA
Smanga_S4	----LEATVI	KSQDNQWSYK	IHQED-K---	-----	-VLKVGKFAK	VK-----N--	THTNGVRLLA
Smanga_SP	----LEATVI	KSQDNQWSYK	IHQED-K---	-----	-ILKVGKFAK	IK-----N--	THTNGVRLLA

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HTLV	QFIQTSDHPS	VPILLHSHR	FKN-LGAQT-	GELWNTFLKI	A-AP----LA	PVKALMPVFT	LSPVIINTAP
HIV1B5	EAVQKITTES	IVIW-GKTPK	FKLPIQKETW	ETWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIVGAE
HIV1H2	EAVQKITTES	IVIW-GKTPK	FKLPIQKETW	ETWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIVGAE
HIV1MN	EAVQKIATES	IVIW-GKTPK	FRLPIQKETW	ETWWTEYTXA	TWIPEWEVNV	TPPLVKLWYQ	LEKEPIVGAE
HIV1N5	EAVQKIATES	IVIW-GKTPK	FKLPIQKETW	EAWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIIGAE
HIV1ND	EAVQKIATES	IVIW-GKTPK	FKLPIQKETW	ETWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIIGAE
HIV1OY	EAVQKITQES	IVIW-GKTPK	FKLPIQKETW	EAWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKDPVIGAE
HIV1PV	EAVQKITTES	IVIW-GKTPK	FKLPIQKETW	ETWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIVGAE
HIV1U4	EAVQKITTES	IVIW-GKTPK	FKLPIQKETW	ETWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIVGAE
HIV1Z2	EAVQKITTES	IVIW-GKTPK	FKLPIQKETW	ETWWTEYWQA	TWIPEWEFVN	TPPLVKLWYQ	LEKEPIIGAE
HIV2CA	QVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVGDPIPGTE
HIV2D1	QVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVGDPIPGTE
HIV2G1	QVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVGDPIPGTE
HIV2KR	HVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVKDPVIGEE
HIV2RO	QVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVGDPIPGTE
HIV2SB	QVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVKDPVIGAE
HIV2ST	QVVQKIGKEA	LVIW-GRIPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLAFN	LVKDPVIGAE
SIVCZ	EAVQKIATES	IVIW-GKTPK	FRLPVQKESW	EAWWAEYWQA	TWIPEWEFVN	TPPLVKLWYS	LETEPIPTTD
Smanga_S4	HVVQKIGKEA	LVIW-GEVVPK	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLVFN	LVKEPIQGAE
Smanga_SP	HVVQKIGKEA	LVIW-GQVPR	FHLPVERETW	EQQWWDNYWQV	TWIPDWDVFS	TPPLVRLVFN	LVKEPIQGAE

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HTLV	CLFSDGSTR	AAAYILWDKQI	LS-QRSFPLP	PPHKSARAE	LLGLLHGLSS	ARSWRCLNIF	LDSKYLYHYL
HIV1B5	TFYVDGAASR	ETKLGKAGYV	TNRGRQKVVV	LHTTTNQKTE	LQAIHLAL--	QDSGLEVNIV	TDSQYALGII
HIV1H2	TFYVDGAANR	ETKLGKAGYV	TNRGRQKVVV	LTDTTNQKTE	LQAIYLAL--	QDSGLEVNIV	TDSQYALGII
HIV1MN	TFYVDGAANR	ETKKGKAGYV	TNRGRQKVVV	LTDTTNQKTE	LQAIHLAL--	QDSGLEVNIV	TDSQYALGII
HIV1N5	TFYVDGAANR	ETKLGKAGYV	TDRGRQKVVV	LTDTTNQKTE	LQAIHLAL--	QDSGLEVNIV	TDSQYALGII
HIV1ND	TFYVDGAANR	ETKLGKAGYV	TDRGRQKVVV	FTDTTNQKTE	LQAINLAL--	QDSGLEVNIV	TDSQYALGII
HIV1OY	TFYVDGAANR	ETKLGKAGYV	TDRGRQKVVV	LTDTTNQKTE	LQAIHLAL--	QDSGLEVNIV	TDSQYALGII
HIV1PV	TFYVDGAANR	ETRLGKAGYL	TNKGRQKVVV	LNTTTNQKTE	LQAIYLAL--	QDSGLEVNIV	TDSQYALGII
HIV1U4	TFYVDGAANR	ETKLGKAGYV	TDRGRQKVVV	LTDTTNQKTE	LHAIHLAL--	QDSGLEVNIV	TDSQYALGII
HIV1Z2	TFYVDGAANR	ETKLGKAGYV	TDRGRQKVVV	FTDTTNQKTE	LQAINLAL--	QDSGLEVNIV	TDSQYALGII
HIV2CA	TFYTDGSCNR	QSKEGKAGYV	TDRGRDKVKI	LEQTTNQQAE	LEAFAMAL--	TDSGPKANII	VDSQYVMGIV
HIV2D1	TFYTDGSCNR	QSKEGKAGYV	TDRGRDRVRV	LEQTSNQQAE	LEAFAMAL--	ADSGPKVNI I	VDSQYVMGIV
HIV2G1	TFYTDGSCNR	QSKEGKARYV	TDRGRDKVRV	LEQTTNQQAE	LEAFAMTL--	TDSGPKVNI I	VDSQYVMGIV
HIV2KR	TFYTDGSCNR	QSKEGKAGYI	TDRGRDKVRI	LEQTTNQQAE	LEAFAMAL--	TDSGPKANII	VDSQYVMGIV
HIV2RO	TFYTDGSCNR	QSKEGKAGYV	TDRGRDKVKK	LEQTTNQQAE	LEAFAMAL--	TDSGPKVNI I	VDSQYVMGIS
HIV2SB	TFYTDGSCNR	QSKEGKAGYI	TDRGRDKVRI	LEQTTNQQAE	LEAFAMAV--	TDSGPKVNI I	VDSQYVMGIV
HIV2ST	TFYTDGSCNK	QSREGKAGYI	TDRGRDKVRL	LEQTTNQQAE	LEAFAMAV--	TDSGPKANII	VDSQYVMGIV
SIVCZ	TYFVDGAANR	ETKLGKAGYV	TDKGGKQIIS	LENTTNQQAE	LKALLLAL--	QDSQOQVNI I	TDSQYVGLII
Smanga_S4	TFYVDGSCNR	QSREGKAGYV	TDRGRDKAKL	LEQTTNQQAE	LEAFYLAL--	ADSGPKANII	VDSQYVMGII
Smanga_SP	TFYVDGSCNR	QSREGKAGYV	TDRGRDKAKL	LEQTTNQQAE	LEAFYLAL--	ADSGPKANII	VDSQYVMGIV

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HTLV	RTLALGTFQG	RSSQAPFOAL	LPRLLSRKVV	YLHVRSHNT	LPDPISRLNA	LTDALLITPV	LQLS---P-A
HIV1B5	QAQP-----D	KSESELVNI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKI	LFLDGIDKAQ
HIV1H2	QAQP-----D	KSESELVNI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKV	LFLDGIDKAQ
HIV1MN	QAQP-----D	KSESELVSI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKV	LFLDGIDKAQ
HIV1N5	QAQP-----D	KSESELVSI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDGL	VSAG--IRKV	LFLDGIDKAQ
HIV1ND	QAQP-----D	KSESELVSI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKV	LFLDGIDKAQ
HIV1OY	QAQP-----D	KSESELVSI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKV	LFLDGIDKAQ
HIV1PV	QAQP-----D	KSESELVNI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKI	LFLDGIDKAQ
HIV1U4	QAQP-----D	RSESELVNI	IEKLIKEKV	YLSWVPAHKG	IGGNEQVDKL	VSSG--IRKV	LFLDGIDKAQ
HIV1Z2	QAQP-----D	KSESELVSI	IEQLIKKEKV	YLAWVPAHKG	IGGNEQVDKL	VSAG--IRKV	LFLDGIDKAQ
HIV2CA	AGQP-----T	ESENRIVNI	IEEMIKKEAI	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
HIV2D1	AGQP-----T	ESENRIVNI	IEDMIKKEAV	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
HIV2G1	VGQP-----T	ESESRIVNI	IEDMIKKEAV	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
HIV2KR	AGQP-----T	ESESRIVNI	IEEMIKKETL	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
HIV2RO	ASQP-----T	ESESRIVNI	IEEMIKKEAI	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
HIV2SB	TGQP-----A	ESESRIVNI	IEEMIKKEAI	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
HIV2ST	AGQP-----T	ESESRIVNI	IEEMIKKEAI	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ
SIVCZ	QSQP-----D	HSESELVNI	IEELIKKEKI	YLSWVPAHKG	IGGNEQVDKL	VSAG--IRKV	LFLDGIDRAQ
Smanga_S4	AGQP-----T	ESESRIVNI	IEEMIKKEAI	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLKIEPAQ
Smanga_SP	AGQP-----T	ESESRIVNI	IEEMIKKEAI	YVAWVPAHKG	IGGNQVDHL	VSAG--IRQV	LFLEKIEPAQ

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HTLV	ELHSFTHCGQ	TAL-TLOGAT	TTEASNILRS	CHACRGGNPO	HQMPRGHIRR	GLLPNHIWQG	DITHFKYKNT
HIV1B5	EEHEKYHSNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1H2	DEHEKYHSNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1MN	EDHEKYHSNW	RAMASDFNLP	PIVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1N5	EEHEKYHSNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1ND	EEHEKYHNNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1OY	EEHEKYHSNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKII
HIV1PV	DEHEKYHSNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1U4	EDHEKYHCNW	RAMASDFNLP	PVVAKEIVAS	CNKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV1Z2	EEHEKYHNNW	RAMASDFNLP	PVVAKEIVAS	CDKCQLKGEA	M---HGQV--	-DCSPGIWQL	DCTHLEGKVI
HIV2CA	EEHEKYHTNV	KELCHKFDIP	QLVARQIVNT	CAQCQOKGEA	I---HGQV--	-NAEVGTWQM	DCTHLEGKII
HIV2D1	EEHEKYHSNI	KELTHKFGIP	QLVARQIVNT	CAQCQOKGEA	I---HGQV--	-NAEIGVWQM	DCTHLEGKII
HIV2G1	EEHEKYHSNM	KELTHKFGIP	QLVARQIVNT	CAQCQOKGEA	I---HGQV--	-NAEIGVWQM	DCTHLEGKII
HIV2KR	EEHEKYHSNV	KELSHKFGIP	KLVARQIVNT	CAQCQOKGEA	I---HGQV--	-DAELGTWQM	DCTHLEGKII
HIV2RO	EEHEKYHSNV	KELSHKFGIP	NLVARQIVNS	CAQCQOKGEA	I---HGQV--	-NAELGTWQM	DCTHLEGKII
HIV2SB	EEHGKYHSNV	KELAHKFGIP	NLVARQIVNT	CAQCQOKGEA	I---HGQV--	-NAELGTWQM	DCTHLEGKII
HIV2ST	EEHEKYHSNV	KELSHKFGIP	KLVARQIVNT	CTQCQOKGEA	I---HGQV--	-NAELGTWQM	DCTHLEGKII
SIVCZ	EEHERYHSNW	KAMASDFNLP	PIVAKEIVAH	CDKCQVKGEA	M---HGQV--	-DCSPGIWQV	DCTHLEGKVI
Smanga_S4	EEHEKYHSNV	KELVFKFGIP	RLVAKQIVDT	CDKCHQKGEA	I---HGQV--	-NAELGTWQM	DCTHLEGKII
Smanga_SP	EEHEKYHSNV	KELVFKFGIP	RLVAKQIVDT	CDKCHQKGEA	I---HGQV--	-NAELGTWQM	DCTHLEGKII

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HTLV	LYRLHVWVDT	FSGAISATQK	RKETSSSEAIS	SLLQAIHLG	KPSYINTDNG	PAYISQDFLN	MCTSLAIRHT
HIV1B5	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKTIHTDNG	SNFTSATVKA	ACWWAGIKQE
HIV1H2	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKTIHTDNG	SNFTGATVRA	ACWWAGIKQE
HIV1MN	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKTIHTDNG	PNFTSTTVKA	ACWWTGIKQE
HIV1N5	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKTVHTDNG	SNFTSTTVKA	ACWWAGIKQE
HIV1ND	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKVHTDNG	SNFTSATVKA	ACWWAGIKQE
HIV1OY	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FILKLAGRW	PVKTIHTDNG	SNFTSTTVKA	ACWWAGIKQE
HIV1PV	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKTIHTDNG	SNFTSATVKA	ACWWAGIKQE
HIV1U4	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FILKLAGRW	PVKVIHTDNG	SNFTSAAVKA	VCWWANIQQE
HIV1Z2	LVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FILKLAGRW	PVKIVHTDNG	SNFTSAAVKA	ACWWAGIKQE
HIV2CA	IVAVHVA----	-SGFIEAEVI	POESGRQTAL	-FLLKLASRW	PITHLHTDNG	ANFTSQEVKM	VAWWVGIEQT
HIV2D1	IVAVHVA----	-SGFIEAEVI	POESGRQTAL	-FLLKLASRW	PITHLHTDNG	PNFTSQEVKM	VAWWVGIEQS
HIV2G1	IVAVHVA----	-SGFIEAEVI	POESGRQTAL	-FLLKLASRW	PITHLHTDNG	SNFTSQEVKM	VAWWVGIEQS
HIV2KR	IVAVHVA----	-SGFIEAEVI	POETGRQTAL	-FLLKLASRW	PITHLHTDNG	ANFTSQEVKM	VAWWTGIEQS
HIV2RO	IVAVHVA----	-SGFIEAEVI	POESGRQTAL	-FLLKLASRW	PITHLHTDNG	ANFTSQEVKM	VAWWVGIEQS
HIV2SB	IVAVHVA----	-SGFIEAEVI	POESGRQTAL	-FLLKLASRW	PITHLHTDNG	ANFTSQEVKM	VAWWVGIEQS
HIV2ST	IVAVHVA----	-SGFIEAEVI	POESGRQTAL	-FLLKLASRW	PITHLHTDNG	ANFTSQEVKM	VAWWVGIEQS
SIVCZ	IVAVHVA----	-SGYIEAEVI	PAETGQETAY	-FLLKLAGRW	PVKTIHTDNG	PNFTSAAVKA	ACWWADIKQE
Smanga_S4	IVAVHVA----	-SGFIEAEVI	POETGRQTAL	-FLLKLAGRW	PITHLHTDNG	ANFTSQEVKM	VAWWAGIEQT
Smanga_SP	IVAVHVA----	-SGFIEAEVI	POETGRQTAL	-FLLKLASRW	PITHLHTDNG	ANFTSQEVKM	VAWWAGIEQT

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HTLV	THVPYNPTSS	GLVERSNGIL	KTLLEYKFTD	KPDLPMDNAL	SIALWTINHL	NVLTNCHKTR	WQL---HHSP
HIV1B5	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1H2	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1MN	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--RAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1N5	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1ND	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1OY	FGIPYNPOSQ	GVVESMNNEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1PV	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1U4	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVREQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV1Z2	FGIPYNPOSQ	GVVESMNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYSAGE
HIV2CA	FGVPYNPOSQ	GVVEAMNHHL	KNQISRIREQ	ANTVE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPSE
HIV2D1	FGVPYNPOSQ	GVVEAMNHHL	KNQISRIREQ	ANTIE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPAE
HIV2G1	FGVPYNPOSQ	GVVEAMNHHL	KNQISRIREQ	ANTIE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPAE
HIV2KR	FGVPYNPOSQ	GVVEAMNHHL	KNQISRIREQ	ANTME--TIV	LMAVHCMNF	-----KRR	GGIGDMTPAE
HIV2RO	FGVPYNPOSQ	GVVEAMNHHL	KNQISRIREQ	ANTIE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPSE
HIV2SB	FGVPYNPOSQ	GVVEAMNHHL	KNQIERIREQ	ANTME--TIV	LMAVHCMNF	-----KRR	GGIGDMTPVE
HIV2ST	FGVPYNPOSQ	GVVEAMNHHL	KNQISRIREQ	ANTVE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPAE
SIVCZ	FGIPYNPOSQ	GVVESLNKEL	KKIIGQVRDQ	AEHLK--TAV	QMAVFIHNF	-----KRK	GGIGGYTAGE
Smanga_S4	FGVPYNPOSQ	GVVEAMNHHL	KTQIDRIREQ	ANSIE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPAE
Smanga_SP	FGVPYNPOSQ	GVVEAMNHHL	KTQIDRIREQ	ANSIE--TIV	LMAVHCMNF	-----KRR	GGIGDMTPAE

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HTLV	RLOPI---- <td>ETRSLS---- <td>NKQTHWYFYK</td> <td>L PGLNSRQWK</td> <td>GPOEALQEAA</td> <td>GAALIPVSAS</td> <td>SAQWIPWRL</td> </td>	ETRSLS---- <td>NKQTHWYFYK</td> <td>L PGLNSRQWK</td> <td>GPOEALQEAA</td> <td>GAALIPVSAS</td> <td>SAQWIPWRL</td>	NKQTHWYFYK	L PGLNSRQWK	GPOEALQEAA	GAALIPVSAS	SAQWIPWRL
HIV1B5	RIVDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRNPLWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1H2	RIVDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRNPLWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1MN	RIVGIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRDPLWK	GPAKLLWKGE	GAVVIQDND	I-KVVPRRKA
HIV1N5	RIVDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRDPLWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1ND	RIIDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRDPIWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1OY	RIVDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSREPLWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1PV	RIVDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRNPLWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1U4	RIIDIIATDI	QTKELQKQIS	KIQNFRVYY-	-RDSRDPIWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV1Z2	RIIDIIATDI	QTKELQKQIT	KIQNFRVYY-	-RDSRDPIWK	GPAKLLWKGE	GAVVIQDNSD	I-KVVPRRKA
HIV2CA	RLINMITTEQ	EIQFLQAKNS	KLKNFRVYF-	-REGRDQLWK	GPGEELLWKGD	GAVIVKVGTD	I-KIIPRRKA
HIV2D1	RLINMITTEQ	EIQFLQAKNS	NFKNFQVYY-	-REGRDQLWK	GPGEELLWKGD	GAVIVKVGAD	I-KVVPRRKA
HIV2G1	RLINMITTEQ	EIQFLQAKNS	NFKNFQVYY-	-REGRDQLWK	GPGEELLWKGD	GAVIVKVGAD	I-KVIIPRRKA
HIV2KR	RLINMITTEQ	EIQFLHAKNS	KLKNFRVYF-	-REGRDQLWK	GPGEELLWKGD	GAVIVKVGTD	I-KIIPRRKA
HIV2RO	RLINMITTEQ	EIQFLQAKNS	KLKDFRVYF-	-REGRDQLWK	GPGEELLWKGE	GAVLVKVGTD	I-KIIPRRKA
HIV2SB	RLVNMITTEQ	EIQFLQAKNS	KLKNFRVYF-	-REGRNQLWQ	GPGEELLWKGD	GAVIVKVGTD	I-KVIIPRRKA
HIV2ST	RLINMVTAEQ	EIQFLQAKNS	KLQNFRVYF-	-REGRDQLWK	GPGEELLWKGD	GAVIVKVGAD	I-KIIPRRKA
SIVCZ	RIIDIIATDI	QTSELOKQIL	KVQKFRVYY-	-RDSRDPIWK	GPATLLWKGE	GAVVIQDQGE	L-KVVPRRKA
Smanga_S4	RLVNMITTEQ	EIQFQSKNS	KFKNFRVYF-	-REGRDQLWK	GPGEELLWKGE	GAVILKVGTE	I-KVVPRRKA
Smanga_SP	RLVNMITTEQ	EIQFQSKNS	KFKNFRVYF-	-REGRDQLWK	GPGEELLWKGE	GAVILKVGTE	I-KVVPRRKA

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HTLV	KRAACP RPVG	GPADPK EKD-	L--- <td>QHHG--</td> <td>-</td>	QHHG--	-
HIV1B5	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1H2	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1MN	---KVIRDYG	KQTAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1N5	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1ND	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1OY	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1PV	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1U4	---KIIRDYG	KOMAGDDCMA	G--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV1Z2	---KIIRDYG	KOMAGDDCVA	S--- <td>RODED--</td> <td>-</td>	RODED--	-
HIV2CA	---KIIRDYG	GRQELDSSSH	LEGAREN	GEV	A
HIV2D1	---KIIRDYG	GRQELDSSSH	LEGARE	EDGEV	A
HIV2G1	---KIIRDYG	GRQELDSSHL	EGAREE	DGEV	A
HIV2KR	---KIIRDYG	GRREVDSSSH	LEGTRE	DGEV	A
HIV2RO	---KIIRDYG	GRQEMDSGSH	LEGARE	DGEM	A
HIV2SB	---KIIRDYG	PRQEMDSGSH	LEGARE	DGEM	A
HIV2ST	---KIIRDYG	GRQEMDSGSN	LEGARE	DGEV	A
SIVCZ	---KIIRDYG	KOMAGDDCVA	S--- <td>RQNE</td> <td>-</td>	RQNE	-
Smanga_S4	---KIIRDYG	GKELD SGSH	LEDTGE	AREV	A
Smanga_SP	---KIIRDYG	GKELD SGSH	LEDTGE	AREV	A