

# V

## HIV-1/SIVcpz Proteins

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### V-1 Introduction

The HIV-1/SIVcpz protein alignments are based on the complete genome nucleotide alignment, but in some cases a few sequences were removed because they were too short to be informative (especially in Nef), had many stop codons or a strange segment of amino acids. As with the other alignments in this compendium, they are intended to display the usual genetic variation of the world-wide HIV epidemic in a compact form. They are annotated in more detail than the complete genome nucleotide alignment.

## V-2 Annotated features

Features of HIV-1 annotated in the alignment that follows.

Feature	Protein	Location	Page
Gag start, p17 start	Gag	1	322
membrane binding	Gag	1-30	322
phosphorylation site	Gag	112	322
p17 end	Gag	132	324
p24 start	Gag	133	324
CyPA binding	Gag	205-241	324
major homology region	Gag	285-304	324
p24 end	Gag	364	326
p2 start	Gag	365	326
p2 end	Gag	377	326
p7 start	Gag	378	326
Zn motif	Gag	392-404	326
Zn motif	Gag	413-425	326
p7 end	Gag	432	326
p1 start	Gag	433	326
p1 end	Gag	448	328
p6 start	Gag	449	328
Vpr binding	Gag	455-460	328
Vpr binding	Gag	489-494	328
p6 end, Gag end	Gag	501	328
Gag-Pol TF start	Pol	1	330
Gag-Pol TF end	Pol	56	330
protease start	Pol	57	330
protease end	Pol	155	332
p66, p51 RT start	Pol	156	332
M41L	Pol	196	332
D67N	Pol	222	332
K70R	Pol	225	332
D110 catalytic site	Pol	265	332
polymerase motif	Pol	337-342	334
T215Y	Pol	370	334
K219Q	Pol	374	334
p51 RT end	Pol	595	336
p15 RNase H start	Pol	596	336
p66 RT, p15 Rnase H end	Pol	715	338
p31 Integrase start	Pol	716	338
p31 Integrase end	Pol	1004	342
Pol end	Pol	1004	342
Vif start	Vif	1	344
Vif end	Vif	193	346
Vpr start	Vpr	1	348
oligomerization	Vpr	1-41	348
amphipathic $\alpha$ -helix	Vpr	17-33	348
H(S/N)RIG motifs	Vpr	71-83	348
frameshift in HXB2	Vpr	72	348
Vpr end in HXB2	Vpr	79	348
Vpr end	Vpr	98	348
Tat start	Tat	1	350

Feature	Protein	Location	Page
C-rich region	Tat	22-37	350
nuclear localization	Tat	49-57	350
exon 1 end	Tat	72	350
exon 2 start	Tat	73	350
Tat end	Tat	102	350
Rev start	Rev	1	352
exon 1 end	Rev	25	352
exon 2 start	Rev	26	352
NLS	Rev	34-49	352
Leu-rich effector domain	Rev	75-83	352
Rev end	Rev	117	354
Vpu start	Vpu	1	356
transmembrane domain	Vpu	1-27	356
cytoplasmic domain	Vpu	28-82	356
$\alpha$ -helix	Vpu	43-51	356
phos	Vpu	53	356
phos	Vpu	57	356
$\alpha$ -helix	Vpu	58-70	356
Vpu end	Vpu	83	356
Env start	Env	1	358
signal peptide	Env	30	358
gp120 start	Env	31	358
glycosylation NVT	Env	88-90	358
CD4 binding	Env	124	358
V1	Env	131-156	358
glycosylation NDT	Env	136-138	358
glycosylation NSS	Env	141-143	360
glycosylation NCS	Env	156-158	360
V2	Env	158-196	360
glycosylation NIS	Env	160-162	360
glycosylation NDT	Env	186-188	360
glycosylation NTS	Env	197-199	360
CD4 binding	Env	196	360
glycosylation NKT	Env	230-232	360
glycosylation NGT	Env	234-236	360
glycosylation NVS	Env	241-243	360
glycosylation NGS	Env	262-264	362
glycosylation NFT	Env	276-278	362
CD4 binding	Env	279	362
glycosylation NTS	Env	289-291	362
glycosylation NCT	Env	295-297	362
V3	Env	296-331	362
glycosylation NNT	Env	301-303	362
V3 tip	Env	312-315	362
glycosylation NNT	Env	339-341	362
glycosylation NKT	Env	356-358	362
CD4 binding	Env	365	362
V4	Env	385-418	364
glycosylation NST	Env	386-388	364
glycosylation NST	Env	392-394	364
glycosylation NST	Env	397-399	364
glycosylation NNT	Env	406-408	364
CD4 binding	Env	425	364

Feature	Protein	Location	Page
glycosylation NIT	Env	448-450	364
CD4 binding	Env	455	364
V5	Env	460-471	364
glycosylation NES	Env	463-465	364
CD4 binding	Env	469	364
fusion peptide	Env	512-527	364
gp120 end	Env	511	364
gp41 start	Env	512	364
immunodominant region	Env	588-607	366
glycosylation NAS	Env	611-613	366
glycosylation NKS	Env	616-618	366
glycosylation NHT	Env	624-626	366
glycosylation NYT	Env	637-639	366
transmembrane domain	Env	684-705	368
cytoplasmic tail start	Env	706	368
glycosylation NGS	Env	750-752	368
glycosylation NAT	Env	816-818	370
cytoplasmic tail end	Env	857	370
gp41 end	Env	857	370
Env end	Env	857	370
Nef start	Nef	1	372
myristoylation	Nef	2-7	372
acidic cluster	Nef	62-65	372
poly-P helix	Nef	69-78	372
phosphorylation	Nef	77-81	372
HXB2 premature Nef end	Nef	124	374
normal Nef end	Nef	207	374

### V-3 Sequences

Sequences included in the HIV-1 protein alignments.

Name	Accession	Proteins	Author	Reference
B.FR.83.HXB2	K03455	All	Wong-Staal, F.	<i>Nature</i> <b>313</b> (6000):277-284 (1985)
A1.AU.03.PS1044_Day0	DQ676872	All	Li, B.	<i>J Virol</i> <b>81</b> (1):193-201 (2007)
A1.ES.06.X2110	FJ670523	All	Cuevas, M.T.	<i>ARHR</i> <b>2010</b> Aug 13
A1.GE.99.99GEMZ011	DQ207944	All	Zarandia, M.	<i>ARHR</i> <b>22</b> (5):470-476 (2006)
A1.IT.02.60000	EU861977	All	Riva, C.	<i>ARHR</i> <b>24</b> (10): 1319-25 (2008)
A1.KE.06.06KECst_001	FJ623487	All	Tovanabutra, S.	<i>ARHR</i> <b>26</b> (2); 123-31 (2010)
A1.RU.08.PokA1Ru	FJ864679	All	Galkin, A.N.	<i>ARHR</i> <b>28</b> (9); 939-46 (2012)
A1.RW.93.93RW037A	AB287379	All	Sakamoto	Unpublished
A1.SE.95.SE8538	AF069669	All	Carr, J.K.	<i>AIDS</i> <b>13</b> (14); 1819-26 (1999)
A1.TZ.01.A341	AY253314	All	Arroyo, M.A.	<i>ARHR</i> <b>20</b> (8):895-901 (2004)
A1.UA.01.01UADN139	DQ823357	All	Saad, M.D.	<i>ARHR</i> <b>22</b> (8):709-714 (2006)
A1.UG.99.99UGA07072	AF484478	All	Harris, M.E.	<i>ARHR</i> <b>18</b> (17):1281-1290 (2002)
A1.ZA.04.04ZASK162B1	DQ396400	All	Rousseau, C.M.	<i>J Virol Methods</i> <b>136</b> (1-2):118-125 (2006)
A2.CD.97.97CDKTB48	AF286238	All	Gao, F.	<i>ARHR</i> <b>17</b> (8):675-688 (2001)
A2.CM.01.01CM_1445MV	GU201516	All	Carr, J.K.	<i>Retrovirology</i> <b>2010</b> Apr 28;7:39
A2.CY.94.94CY017_41	AF286237	All	Gao, F.	<i>ARHR</i> <b>17</b> (8):675-688 (2001)
B.AR.04.04AR143170	DQ383750	All	Pando, M.A.	<i>Retrovirology</i> <b>3</b> , 59 (2006)

Name	Accession	Proteins	Author	Reference
B.AU.04.PS1038_Day174	DQ676871	All	Li, B.	<i>J Virol</i> <b>81</b> (1):193-201 (2007)
B.BO.99.BOL0122	AY037270	All	Carr, J.K.	<i>AIDS</i> <b>15</b> (15):F41-F47 (2001)
B.BR.06.06BR1119	JN692480	All	Sanabani, S.S.	<i>PLoS ONE</i> <b>6</b> (10):E25869 (2011)
B.CA.07.502_1191_03	JF320424	All	Rolland, M.	<i>Nat Med</i> <b>17</b> (3); 366-71 (2011)
B.CN.09.1121	HQ215556	All	Li, L.	<i>Infect Genet Evol</i> <b>2011</b> May 27
B.CO.01.PCM001	AY561236	All	Sanchez, G.I.	<i>Am J Trop Med Hyg</i> <b>74</b> (4); 674-7 (2006)
B.CU.99.Cu19	AY586542	All	Sierra, M.	<i>JAIDS</i> <b>45</b> (2):151-160 (2007)
B.CY.09.CY266	JF683807	All	Kousiappa, I.	<i>ARHR</i> <b>27</b> (11); 1183-99 (2011)
B.DE.86.D31	U43096	All	Kreutz, R.	<i>ARHR</i> <b>8</b> (9):1619-1629 (1992)
B.DK.07.PMVL_011	FJ694790	All	Vinner, L.	<i>APMIS</i> <b>119</b> (8); 487-97 (2011)
B.DO.05.05DO_160884	EU839597	All	Nadai, Y.	<i>PLoS One</i> <b>2009</b> ;4(3):e4814 Epub 2009 Mar 12
B.EC.89.EC003	AY173959	All	Hierholzer, J.	<i>ARHR</i> <b>18</b> (18):1339-1350 (2002)
B.ES.09.P2149_3	GU362881	All	Cuevas, M.T.	<i>ARHR</i> <b>2010</b> Aug 13
B.FR.92.92FR_BX08	AY713411	All	Brown, B.K.	<i>J Virol</i> <b>79</b> (10):6089-6101 (2005)
B.GA.88.OYL_397	M26727	All	Huet, T.	<i>AIDS</i> <b>3</b> (11):707-715 (1989)
B.GE.03.03GEMZ004	DQ207940	All	Zarandia, M.	<i>ARHR</i> <b>22</b> (5):470-476 (2006)
B.HT.05.05HT_129389	EU839602	All	Nadai, Y.	<i>PLoS One</i> <b>2009</b> ;4(3):e4814 Epub 2009 Mar 12
B.IN.x.11807	EF694037	All	Lakhashe, S.	<i>ARHR</i> <b>24</b> (1):92-99 (2008)
B.JM.05.05JM_KJ108	EU839605	All	Nadai, Y.	<i>PLoS One</i> <b>2009</b> ;4(3):e4814 Epub 2009 Mar 12
B.JP.05.DR6538	AB287363	All	Sakamoto	Unpublished
B.KR.04.04KMH5	DQ295193	All	Cho	Unpublished
B.MM.99.mSTD101	AB097870	All	Takebe, Y.	<i>AIDS</i> <b>17</b> (14):2077-87 (2003)
B.NL.00.671_00T36	AY423387	All	Geels, M.J.	<i>J Virol</i> <b>77</b> (23):12430-12440 (2003)
B.PE.07.502_2649_wg8	JF320019	All	Rolland, M.	<i>Nat Med</i> <b>17</b> (3); 366-71 (2011)
B.PY.03.03PY_PSP0115	JN251906	All	Eyzaguirre	Unpublished
B.RU.04.04RU128005	AY682547	All	Galkin, A.N.	<i>ARHR</i> <b>22</b> (11):1192-1197 (2006)
B.TH.00.00TH_C3198	AY945710	All	Watanaveeradej, V.	<i>ARHR</i> <b>22</b> (8):801-7 (2006)
B.TT.01.01TT_CRC50069	EU839608	All	Nadai, Y.	<i>PLoS One</i> <b>2009</b> ;4(3):e4814 Epub 2009 Mar 12
B.TW.94.TWCYS_LM49	AF086817	All	Huang	Unpublished
B.UA.01.01UAKV167	DQ823362	All	Saad, M.D.	<i>ARHR</i> <b>22</b> (8):709-714 (2006)
B.US.11.ES38	JN397362	All	Buckheit, R.W.3.	<i>Nat Commun</i> <b>2012</b> Mar 6;3:716 doi: 101038/ncomms1697
B.UY.02.02UY_TSU1290	JN235958	All	Eyzaguirre	Unpublished
B.YE.02.02YE507	AY795904	All	Saad, M.D.	<i>ARHR</i> <b>21</b> (7):644-648 (2005)
B.ZA.03.03ZAPS045MB2	DQ396398	All	Rousseau, C.M.	<i>J Virol Methods</i> <b>136</b> (1-2):118-125 (2006)
C.AR.01.ARG4006	AY563170	All	Carrion, G.	<i>ARHR</i> <b>20</b> (9):1022-1025 (2004)
C.BR.04.04BR013	AY727522	All	Sanabani, S.	<i>ARHR</i> <b>22</b> (2):171-176 (2006)
C.BW.00.00BW07621	AF443088	All	Novitsky, V.	<i>J Virol</i> <b>76</b> (11):5435-5451 (2002)
C.CN.98.YNRL9840	AY967806	All	Qiu, Z.	<i>ARHR</i> <b>21</b> (12):1051-1056 (2005)
C.CY.09.CY260	JF683803	All	Kousiappa, I.	<i>ARHR</i> <b>27</b> (11); 1183-99 (2011)
C.ES.07.X2118_2	EU884500	All	Fernandez-Garcia, A.	<i>ARHR</i> <b>25</b> (1); 93-102 (2009)
C.ET.02.02ET_288	AY713417	All	Brown, B.K.	<i>J Virol</i> <b>79</b> (10):6089-6101 (2005)
C.GE.03.03GEMZ033	DQ207941	All	Zarandia, M.	<i>ARHR</i> <b>22</b> (5):470-476 (2006)
C.IL.98.98IS002	AF286233	All	Rodenburg, C.M.	<i>ARHR</i> <b>17</b> (2):161-168 (2001)
C.IN.03.D24	EF469243	All	Dash, P.K.	<i>Retrovirology</i> <b>5</b> (1):25 (2008)
C.KE.00.KER2010	AF457054	All	Dowling, W.E.	<i>AIDS</i> <b>16</b> (13):1809-1820 (2002)

Name	Accession	Proteins	Author	Reference
C.MM.99.mIDU101_3	AB097871	All	Takebe, Y.	<i>AIDS</i> <b>17</b> (14):2077-87 (2003)
C.MW.93.93MW_965	AY713413	All	Brown, B.K.	<i>J Virol</i> <b>79</b> (10):6089-6101 (2005)
C.SN.90.90SE_364	AY713416	All	Brown, B.K.	<i>J Virol</i> <b>79</b> (10):6089-6101 (2005)
C.SO.89.89SM_145	AY713415	All	Brown, B.K.	<i>J Virol</i> <b>79</b> (10):6089-6101 (2005)
C.TZ.02.CO178	AY734556	All	Arroyo, M.A.	<i>AIDS</i> <b>19</b> (14):1517-1524 (2005)
C.US.98.98US_MSC3018	AY444800	All	Tovanabutra, S.	<i>ARHR</i> <b>21</b> (5):424-429 (2005)
C.UY.01.TRA3011	AY563169	All	Carrion, G.	<i>ARHR</i> <b>20</b> (9):1022-1025 (2004)
C.YE.02.02YE511	AY795906	All	Saad, M.D.	<i>ARHR</i> <b>21</b> (7):644-648 (2005)
C.ZA.05.05ZAPSK240B1	DQ369991	All	Rousseau, C.M.	<i>J Virol Methods</i> <b>136</b> (1-2):118-125 (2006)
C.ZM.02.02ZM108	AB254141	All	Tatsumi	Unpublished
D.CD.83.ELI	K03454	All	Alizon, M.	<i>Cell</i> <b>46</b> (1):63-74 (1986)
D.CM.01.01CM_0009BBY	AY371155	All	Kijak, G.H.	<i>ARHR</i> <b>20</b> (5):521-530 (2004)
D.CY.06.CY163	FJ388945	All	Kousiappa, I.	<i>ARHR</i> <b>25</b> (8); 727-40 (2009)
D.KE.97.ML415_2	AY322189	All	Fang, G.	<i>J Infect Dis</i> <b>190</b> (4):697-701 (2004)
D.KR.04.04KBH8	DQ054367	All	Cho	Unpublished
D.SN.90.SE365	AB485648	All	Takekawa	Unpublished
D.TD.99.MN011	AJ488926	All	Vidal, N.	<i>JAIDS</i> <b>33</b> (2):239-246 (2003)
D.TZ.01.A280	AY253311	All	Arroyo, M.A.	<i>ARHR</i> <b>20</b> (8):895-901 (2004)
D.UG.99.99UGK09958	AF484499	All	Harris, M.E.	<i>ARHR</i> <b>18</b> (17):1281-1290 (2002)
D.YE.02.02YE516	AY795907	All	Saad, M.D.	<i>ARHR</i> <b>21</b> (7):644-648 (2005)
D.ZA.90.R1	EF633445	All	Jacobs, G.B.	<i>ARHR</i> <b>23</b> (12):1575-8 (2007)
F1.AO.06.AO_06_ANG125	FJ900269	All	Guimaraes, M.L.	<i>Retrovirology</i> <b>6</b> , 39 (2009)
F1.AR.02.ARE933	DQ189088	All	Aulicino, P.C.	<i>ARHR</i> <b>21</b> (2):158-164 (2005)
F1.BE.93.VI850	AF077336	All	Laukkanen, T.	<i>Virology</i> <b>269</b> (1):95-104 (2000)
F1.BR.07.07BR844	FJ771010	All	Sanabani, S.S.	<i>Virol J</i> <b>2009</b> Jun 16;6:78
F1.CY.08.CY222	JF683771	All	Kousiappa, I.	<i>ARHR</i> <b>27</b> (11); 1183-99 (2011)
F1.ES.x.P1146	DQ979023	All	Sierra	Unpublished
F1.FI.93.FIN9363	AF075703	All	Laukkanen, T.	<i>Virology</i> <b>269</b> (1):95-104 (2000)
F1.FR.96.96FR_MP411	AJ249238	All	Triques, K.	<i>ARHR</i> <b>16</b> (2):139-151 (2000)
F1.RO.96.BCI_R07	AB485658	All	Takekawa	Unpublished
F1.RU.08.D88_845	GQ290462	All	Fernandez-Garcia, A.	<i>ARHR</i> <b>25</b> (11):1187-1191 (2009)
F2.CM.97.CM53657	AF377956	All	Carr, J.K.	<i>Virology</i> <b>286</b> (1):168-181 (2001)
G.BE.96.DRCBL	AF084936	All	Oelrichs, R.B.	<i>ARHR</i> <b>15</b> (6):585-589 (1999)
G.CM.04.178_15	FJ389363	All	Yamaguchi, J.	<i>ARHR</i> <b>25</b> (4):469-473 (2009)
G.CN.08.GX_2084_08	JN106043	All	Li	Unpublished
G.CU.99.Cu74	AY586547	All	Sierra, M.	<i>JAIDS</i> <b>45</b> (2):151-160 (2007)
G.ES.09.X2634_2	GU362882	All	Cuevas, M.T.	<i>ARHR</i> <b>2010</b> Aug 13
G.GH.03.03GH175G	AB287004	All	Takekawa	Unpublished
G.KE.93.HH8793_12_1	AF061641	All	Salminen, M.	<i>ARHR</i> <b>8</b> (9):1733-1742 (1992)
G.NG.09.09NG_SC62	JN248593	All	Charurat, M.	<i>J Infect Dis</i> <b>2012</b> Feb 21
G.PT.x.PT2695	AY612637	All	Esteves	Unpublished
G.SE.93.SE6165_G6165	AF061642	All	Carr, J.K.	<i>Virology</i> <b>247</b> (1):22-31 (1998)
H.BE.93.VI991	AF190127	All	Janssens, W.	<i>AIDS</i> <b>14</b> (11):1533-1543 (2000)
H.BE.93.VI997	AF190128	All	Janssens, W.	<i>AIDS</i> <b>14</b> (11):1533-1543 (2000)
H.CF.90.056	AF005496	All	Gao, F.	<i>J Virol</i> <b>72</b> (7):5680-5698 (1998)
H.GB.00.00GBAC4001	FJ711703	All	Holzmayr, V.	<i>ARHR</i> <b>25</b> (7):721-726 (2009)
J.CD.97.J_97DC_KTB147	EF614151	All	Abecasis, A.B.	<i>J Virol</i> <b>81</b> (16):8543-8551 (2007)
J.CM.04.04CMU11421	GU237072	All	Yamaguchi, J.	<i>ARHR</i> <b>26</b> (6); 693-7 (2010)
J.SE.93.SE9280_7887	AF082394	All	Laukkanen, T.	<i>ARHR</i> <b>15</b> (3):293-297 (1999)
J.SE.94.SE9173_7022	AF082395	All	Laukkanen, T.	<i>ARHR</i> <b>15</b> (3):293-297 (1999)
K.CD.97.97ZR_EQTB11	AJ249235	All	Triques, K.	<i>ARHR</i> <b>16</b> (2):139-151 (2000)

Name	Accession	Proteins	Author	Reference
K.CM.96.96CM_MP535	AJ249239	All	Triques, K.	<i>ARHR</i> <b>16</b> (2):139-151 (2000)
01_AE.AF.07.569M	GQ477441	All	Sanders-Buell, E.	<i>ARHR</i> <b>26</b> (5):605-608 (2010)
01_AE.CF.90.90CF11697	AF197340	All	Anderson, J.P.	<i>J Virol</i> <b>74</b> (22):10752-10765 (2000)
01_AE.CN.09.1119	HQ215553	All	Li, L.	<i>Infect Genet Evol</i> <b>2011</b> May 27
01_AE.HK.04.HK001	DQ234790	All	Tsui	Unpublished
01_AE.JP.x.DR0492	AB253423	All	Sakamoto	Unpublished
01_AE.TH.04.BKM	DQ314732	All	Thitithyanont	Unpublished
01_AE.US.00.00US_MSC1164	AY444804	All	Tovanabutra, S.	<i>ARHR</i> <b>21</b> (5):424-429 (2005)
01_AE.VN.98.98VNND15	FJ185235	All	Liao, H.	<i>Virology</i> <b>391</b> (1):51-56 (2009)
02_AG.CM.02.02CM_0013BBY	AY371125	All	Kijak, G.H.	<i>ARHR</i> <b>20</b> (5):521-530 (2004)
02_AG.CY.09.CY256	JF683799	All	Kousiappa, I.	<i>ARHR</i> <b>27</b> (11); 1183-99 (2011)
02_AG.ES.06.P1261	EU786671	All	Fernandez-Garcia, A.	<i>ARHR</i> <b>25</b> (1); 93-102 (2009)
02_AG.FR.91.DJ263	AF063223	All	Carr, J.K.	<i>Virology</i> <b>247</b> (1):22-31 (1998)
02_AG.GH.03.03GH181AG	AB286855	All	Sakamoto	Unpublished
02_AG.LR.x.POC44951	AB485636	All	Takekawa	Unpublished
02_AG.NG.09.09NG_SC61	JN248592	All	Charurat, M.	<i>J Infect Dis</i> <b>2012</b> Feb 21
02_AG.SE.94.SE7812	AF107770	All	Carr, J.K.	<i>AIDS</i> <b>13</b> (14); 1819-26 (1999)
02_AG.SN.98.98SE_MP1211	AJ251056	All	Toure-Kane, C.	<i>ARHR</i> <b>16</b> (6):603-609 (2000)
02_AG.US.06.502_2696_FL01	JF320297	All	Rolland, M.	<i>Nat Med</i> <b>17</b> (3); 366-71 (2011)
02_AG.UZ.02.02UZ0683	AY829214	All	Carr, J.K.	<i>JAIDS</i> <b>39</b> (5):570-575 (2005)
03_AB.RU.97.KAL153_2	AF193276	All	Liitsola, K.	<i>ARHR</i> <b>16</b> (11):1047-1053 (2000)
04_cpx.CY.94.94CY032_3	AF049337	All	Gao, F.	<i>J Virol</i> <b>72</b> (12):10234-10241 (1998)
05_DF.BE.x.VI1310	AF193253	All	Laukkanen, T.	<i>Virology</i> <b>269</b> (1):95-104 (2000)
06_cpx.AU.96.BFP90	AF064699	All	Oelrichs, R.B.	<i>ARHR</i> <b>14</b> (16):1495-1500 (1998)
07_BC.CN.98.98CN009	AF286230	All	Rodenburg, C.M.	<i>ARHR</i> <b>17</b> (2):161-168 (2001)
08_BC.CN.06.nx2	HM067748	All	Miao	Unpublished
09_cpx.GH.96.96GH2911	AY093605	All	McCutchan, F.E.	<i>ARHR</i> <b>20</b> (8):819-826 (2004)
10_CD.TZ.96.96TZ_BF061	AF289548	All	Kouliniska, I.N.	<i>ARHR</i> <b>17</b> (5):423-431 (2001)
11_cpx.CM.95.95CM_1816	AF492624	All	Wilbe, K.	<i>ARHR</i> <b>18</b> (12):849-56 (2002)
12_BF.AR.99.ARMA159	AF385936	All	Carr, J.K.	<i>AIDS</i> <b>15</b> (15):F41-F47 (2001)
13_cpx.CM.96.96CM_1849	AF460972	All	Wilbe, K.	<i>ARHR</i> <b>18</b> (12):849-56 (2002)
14_BG.ES.05.X1870	FJ670522	All	Cuevas, M.T.	<i>ARHR</i> <b>2010</b> Aug 13
15_01B.TH.99.99TH_MU2079	AF516184	All	Viputtijul, K.	<i>ARHR</i> <b>18</b> (16):1235-1237 (2002)
16_A2D.KR.97.97KR004	AF286239	All	Gao, F.	<i>ARHR</i> <b>17</b> (8):675-688 (2001)
17_BF.AR.99.ARMA038	AY037281	All	Carr, J.K.	<i>AIDS</i> <b>15</b> (15):F41-F47 (2001)
18_cpx.CU.99.CU76	AY586540	All	Thomson, M.M.	<i>AIDS</i> <b>19</b> (11):1155-63 (2005)
19_cpx.CU.99.CU7	AY894994	All	Casado, G.	<i>JAIDS</i> <b>40</b> (5):532-537 (2005)
20_BG.CU.99.Cu103	AY586545	All	Sierra, M.	<i>JAIDS</i> <b>45</b> (2):151-160 (2007)
21_A2D.KE.99.KER2003	AF457051	All	Dowling, W.E.	<i>AIDS</i> <b>16</b> (13):1809-1820 (2002)
22_01A1.CM.01.01CM_0001BBY	AY371159	All	Kijak, G.H.	<i>ARHR</i> <b>20</b> (5):521-530 (2004)
23_BG.CU.03.CB118	AY900571	All	Sierra, M.	<i>JAIDS</i> <b>45</b> (2):151-160 (2007)
24_BG.ES.08.X2456_2	FJ670526	All	Cuevas, M.T.	<i>ARHR</i> <b>2010</b> Aug 13
25_cpx.CM.02.1918LE	AY371169	All	Kijak, G.H.	<i>ARHR</i> <b>20</b> (5):521-530 (2004)
26_AU.CD.02.02CD_MBTB047	FM877782	All	Vidal, N.	<i>ARHR</i> <b>25</b> (8):823-832 (2009)
27_cpx.FR.04.04CD_FR_KZS	AM851091	All	Vidal, N.	<i>ARHR</i> <b>24</b> (2):315-321 (2008)
28_BF.BR.99.BREPM12609	DQ085873	All	Sa Filho, D.J.	<i>ARHR</i> <b>22</b> (1):1-13 (2006)
29_BF.BR.01.BREPM16704	DQ085876	All	Sa Filho, D.J.	<i>ARHR</i> <b>22</b> (1):1-13 (2006)
31_BC.BR.04.04BR142	AY727527	All	Sanabani, S.	<i>ARHR</i> <b>22</b> (2):171-176 (2006)
32_06A1.EE.01.EE0369	AY535660	All	Adojaan, M.	<i>JAIDS</i> <b>39</b> (5):598-605 (2005)
33_01B.ID.07.JKT189_C	AB547463	All	SahBandar, I.N.	<i>ARHR</i> <b>2010</b> Oct 19
34_01B.TH.99.OUR2478P	EF165541	All	Tovanabutra, S.	<i>ARHR</i> <b>23</b> (6):829-833 (2007)
35_AD.AF.07.169H	GQ477446	All	Sanders-Buell, E.	<i>ARHR</i> <b>26</b> (5):605-608 (2010)

Name	Accession	Proteins	Author	Reference
36_cpx.CM.00.00CMNYU830	EF087994	All	Powell, R.L.	<i>ARHR</i> <b>23</b> (8):1008-1019 (2007)
37_cpx.CM.00.00CMNYU926	EF116594	All	Powell, R.L.	<i>ARHR</i> <b>23</b> (7):923-933 (2007)
38_BF1.UY.03.UY03_3389	FJ213783	All	Ruchansky, D.	<i>ARHR</i> <b>25</b> (3); 351-6 (2009)
39_BF.BR.04.04BRRJ179	EU735535	All	Guimaraes, M.L.	<i>AIDS</i> <b>22</b> (3):433-435 (2008)
40_BF.BR.05.05BRRJ055	EU735537	All	Guimaraes, M.L.	<i>AIDS</i> <b>22</b> (3):433-435 (2008)
42_BF.LU.03.luBF_05_03	EU170155	All	Struck	Unpublished
43_02G.SA.03.J11223	EU697904	All	Badreddine, S.	<i>ARHR</i> <b>23</b> (5):667-674 (2007)
44_BF.CL.00.CH80	FJ358521	All	Delgado, E.	<i>ARHR</i> <b>26</b> (7); 821-6 (2010)
45_cpx.FR.04.04FR_AUK	EU448295	All	Frange, P.	<i>Retrovirology</i> <b>2008</b> Aug 1;5:69
46_BF.BR.07.07BR_FPS625	HM026456	All	Sanabani, S.S.	<i>Virol J</i> <b>2010</b> Apr 16;7:74
47_BF.ES.08.P1942	GQ372987	All	Fernandez-Garcia, A.	<i>ARHR</i> <b>26</b> (7); 827-32 (2010)
48_01B.MY.07.07MYKT021	GQ175883	All	Li, Y.	<i>JAIDS</i> <b>54</b> (2):129-136 (2010)
49_cpx.GM.03.N26677	HQ385479	All	de Silva, T.I.	<i>Retrovirology</i> <b>7</b> (1):82 (2010)
51_01B.SG.11.11SG_HM021	JN029801	All	Ng, O.T.	<i>ARHR</i> <b>2011</b> Sep 23
O.BE.87.ANT70	L20587	All	Vanden Haesevelde, M.	<i>J Virol</i> <b>68</b> (3):1586-1596 (1994)
O.CM.91.MVP5180	L20571	All	Gurtler, L.G.	<i>J Virol</i> <b>68</b> (3):1581-1585 (1994)
O.CM.96.96CMA102	AY169803	All	Yamaguchi, J.	<i>ARHR</i> <b>19</b> (11):979-988 (2003)
O.CM.98.98CMA104	AY169802	All	Yamaguchi, J.	<i>ARHR</i> <b>19</b> (11):979-988 (2003)
O.CM.99.99CMU4122	AY169815	All	Yamaguchi, J.	<i>ARHR</i> <b>19</b> (11):979-988 (2003)
O.FR.92.VAU	AF407418	All	Vartanian, J.P.	<i>J Gen Virol</i> <b>83</b> (Pt 4):801-805 (2002)
O.SN.99.99SE_MP1299	AJ302646	All	Toure-Kane, C.	<i>ARHR</i> <b>17</b> (12):1211-1216 (2001)
O.US.97.97US08692A	AY169805	All	Yamaguchi, J.	<i>ARHR</i> <b>19</b> (11):979-988 (2003)
O.US.99.99USTWLA	AY169814	All	Yamaguchi, J.	<i>ARHR</i> <b>19</b> (11):979-988 (2003)
N.CM.02.DJO0131	AY532635	All	Bodelle, P.	<i>ARHR</i> <b>20</b> (8):902-908 (2004)
N.CM.04.04CM_1015_04	DQ017382	All	Yamaguchi, J.	<i>ARHR</i> <b>22</b> (1):83-92 (2006)
N.CM.06.U14842	GQ324958	All	Vallari, A.	<i>ARHR</i> <b>26</b> (1):109-115 (2010)
N.CM.95.YBF30	AJ006022	All	Simon, F.	<i>Nat Med</i> <b>4</b> (9):1032-1037 (1998)
N.CM.97.YBF106	AJ271370	All	Roques, P.	<i>AIDS</i> <b>18</b> (10):1371-1381 (2004)
N.FR.11.N1_FR_2011	JN572926	All	Delaugerre, C.	<i>Lancet</i> <b>378</b> (9806); 1894 (2011)
P.CM.06.U14788	HQ179987	All	Vallari, A.	<i>J Virol</i> <b>85</b> (3); 1403-7 (2011)
P.FR.09.RBF168	GU111555	All	Plantier, J.-C.	<i>Nat Med</i> <b>15</b> (8); 871-2 (2009)
CPZ.CD.90.ANT	U42720	All	Vanden Haesevelde, M.M.	<i>Virology</i> <b>221</b> (2):346-350 (1996)
CPZ.CM.05.SIVcpzMT145	DQ373066	All	Keele, B.F.	<i>Science</i> <b>313</b> (5786):523-526 (2006)
CPZ.GA.88.GAB1	X52154	All	Huet, T.	<i>Nature</i> <b>345</b> (6273):356-359 (1990)
CPZ.TZ.00.TAN1	AF447763	All	Santiago, M.L.	<i>J Virol</i> <b>77</b> (3):2233-2242 (2003)
CPZ.US.85.US_Marilyn	AF103818	All	Gao, F.	<i>Nature</i> <b>397</b> (6718):436-441 (1999)











Accession	p17 end	p24 start	CyPA binding	major homology region
B.FR.83.HXB2	..	..	..	..
G.KE.93.HH8793.12.1	..	..	..	..
G.NG.09.09NG.SC62	..	..	..	..
G.PT.x.PT2695	..	..	..	..
G.SE.93.SE6165.G6165	..	..	..	..
H.BE.93.VI991	..	..	..	..
H.BE.93.VI997	..	..	..	..
H.CF.98.056	..	..	..	..
H.GB.00.00GBCA4001	..	..	..	..
J.CD.97.J.97DC.KTB147	..	..	..	..
J.CM.04.04CMU11421	..	..	..	..
J.SE.93.SE9280.7887	..	..	..	..
J.SE.94.SE9173.7022	..	..	..	..
K.CD.97.97ZR.E0TB11	..	..	..	..
K.CM.96.96CM.MP535	..	..	..	..
01.AE.AF.07.569M	..	..	..	..
01.AE.CF.98.98CF11697	..	..	..	..
01.AE.CN.89.1119	..	..	..	..
01.AE.HK.04.HK001	..	..	..	..
01.AE.JP.x.DR0492	..	..	..	..
01.AE.TH.04.BKM	..	..	..	..
01.AE.US.08.08US.MSC1164	..	..	..	..
01.AE.VN.98.98VNMND15	..	..	..	..
02.AG.CM.02.02CM.0013BBY	..	..	..	..
02.AG.CY.09.CY256	..	..	..	..
02.AG.ES.06.P1261	..	..	..	..
02.AG.FR.91.DJ263	..	..	..	..
02.AG.GH.03.03GH181AG	..	..	..	..
02.AG.LR.x.P0C44951	..	..	..	..
02.AG.NG.09.09NG.SC61	..	..	..	..
02.AG.SE.94.SE7812	..	..	..	..
02.AG.SN.98.98SE.MP1211	..	..	..	..
02.AG.US.06.02.7696.FL01	..	..	..	..
02.AG.UZ.02.02UZ0683	..	..	..	..
03.AB.RU.97.KAL153.2	..	..	..	..
04.cpx.CY.94.94CY032.3	..	..	..	..
05.DF.BE.x.VI11310	..	..	..	..
06.cpx.AU.96.BFP90	..	..	..	..
07.BC.CN.98.98BCN009	..	..	..	..
08.BC.CN.06.nx2	..	..	..	..
09.cpx.GH.96.96GH2911	..	..	..	..
10.CD.TZ.96.96TZ.BF061	..	..	..	..
11.cpx.CM.95.95CM.1816	..	..	..	..
12.BF.AR.99.99BFA159	..	..	..	..
13.cpx.CM.96.96CM.1849	..	..	..	..
14.BG.ES.05.X1870	..	..	..	..
15.01B.TH.99.99TH.MU2079	..	..	..	..
16.AZD.KR.97.97KR004	..	..	..	..
17.BF.AR.99.ARM4038	..	..	..	..
18.cpx.CU.99.CU176	..	..	..	..
19.cpx.CU.99.CU7	..	..	..	..
20.BG.CU.99.CU103	..	..	..	..
21.AZD.KE.99.KER2003	..	..	..	..
22.01A1.CM.01.01CM.0001BBY	..	..	..	..
23.BG.CU.03.CU119	..	..	..	..
24.BG.ES.08.X2456.2	..	..	..	..
25.cpx.CM.02.1918LE	..	..	..	..
26.AU.CD.02.02CD.MBT047	..	..	..	..
27.cpx.FR.04.04CD.FR.K25	..	..	..	..
28.BF.BR.99.BREPM12609	..	..	..	..
29.BF.BR.01.BREPM16704	..	..	..	..
31.BC.BR.04.04BR142	..	..	..	..
32.06A1.EE.01.EE0369	..	..	..	..
33.01B.ID.07.JKT189.C	..	..	..	..
35.01B.TH.99.09UR2478P	..	..	..	..
35.AD.AF.07.169H	..	..	..	..
36.cpx.CM.00.00CMNYU830	..	..	..	..
37.cpx.CM.00.00CMNYU926	..	..	..	..
38.BF1.UY.03.UY03.3389	..	..	..	..
39.BF.BR.04.04BRRJ179	..	..	..	..
40.BF.BR.05.05BRBJ055	..	..	..	..
42.BF.LU.03.LuBF.05.03	..	..	..	..
43.02G.SA.03.J11223	..	..	..	..
44.BF.CL.00.CH80	..	..	..	..
45.cpx.FR.04.04FR.AUK	..	..	..	..
46.BF.BR.07.07BR.FP5625	..	..	..	..
47.BF.ES.08.P1942	..	..	..	..
48.01B.MY.07.07MYKT021	..	..	..	..
49.cpx.GM.03.N26677	..	..	..	..
51.01B.SG.11.11SG.HM021	..	..	..	..
0.BE.87.ANT70	..	..	..	..
0.CM.91.MVP5180	..	..	..	..
0.CM.96.96CMA102	..	..	..	..
0.CM.98.98CMA104	..	..	..	..
0.CM.99.99CMA1122	..	..	..	..
0.FR.92.VAU	..	..	..	..
0.SN.99.99SE.MP1299	..	..	..	..
0.US.97.97US90692A	..	..	..	..
0.US.99.99US174	..	..	..	..
N.CM.02.DJ00131	..	..	..	..
N.CM.04.04CM.1015.04	..	..	..	..
N.CM.06.U14842	..	..	..	..
N.CM.95.YBF30	..	..	..	..
N.CM.97.YBF106	..	..	..	..
N.FR.11.N1.FR.2011	..	..	..	..
N.CM.06.U1708	..	..	..	..
P.FR.09.RBF168	..	..	..	..
CPZ.CD.90.ANT	..	..	..	..
CPZ.CM.05.SIVcpzMT145	..	..	..	..
CPZ.GA.88.GAB1	..	..	..	..
CPZ.TZ.00.TAN1	..	..	..	..
CPZ.US.85.US.Marilyn	..	..	..	..

	major homology region	p24 end_p2 start	p2 end_p7 start	Zn motif	Zn motif	p7 end_p1 start	
B.FR.83.HXB2	RQGPKEPRDYVDRFYKTLRAEQASQEVKNMVTETLLV.QNANPCKTILKALGPAATLEEMMTACQGVGGPGHKARVLAEAM...SQVNTN...	SATVIMORGN	FRN.QR.KIVKFCNCGKEGHTARNCRAPRKKGCWCKGKEGHQMKDCT...	ERQ..ANFLGK	436		
A1.AU.03.P51044_Day0	S F A T S S SG S S	AO QTS GG K R I L L K					435
A1.ES.06.X2110	F A T G S G G G S	HPN G K G I L K					434
A1.GE.99.99GEM2011	F T D D S SG S	LO N N KS G P R I L					427
A1.IT.02.60000	F T D S R G G	AO KTN K G PK R I L					434
A1.KE.06.06KECst_001	F T D S R G TG	H Q NTN G K R I L					434
A1.RU.08.PokA1Ru	F T D D S R G G	K N N KS G PK R I L					431
A1.RW.93.93RW037A	F I T G S R TG S	O OTN G K R I L					434
A1.SE.95.5E8538	F A T G S S TG	O OPN G K R I L					432
A1.TZ.01.A341	F T G S R TG	QH TNN G K R I L					433
A1.UA.01.01UAADN139	F T G S R TG	AO G N KS G PK R I L					432
A1.Ug.99.99UGAG7072	E F I T G D S R G G	O N V G K R I L					432
A1.ZA.04.04ZASK162B1	F A G T G S O TG S V S	O OPNT KG K RNI L					440
A2.CD.97.97CDKTB48	F A T D S R G G	O NTN I KG K R I L					440
A2.CM.01.01CM.1445MV	F T D D S R G G	IHST NONV G PK R I L					432
A2.CY.94.94CY017_41	F T D D RS R G S S	H QST NTN G K R I L					432
B.AR.04.04AR143170							432
B.AU.04.P51038_Day174	X	X SA X X X X	K TI R L K R N				436
B.BO.99.B0L0122		G X V K KY TK T I					438
B.BR.06.06BR1119		S I K T I					436
B.CA.07.502_1191_03		S PGN T I K					438
B.CN.09.1121		L QNA KG P X I K K					436
B.CO.01.PCM001		TA YK P I K I					434
B.CU.99.Cu19	K	AN TA K K S					433
B.CY.09.CY266	R D R G S	D K PI L R L					438
B.DE.86.D31		N V KS S T I K R					436
B.DK.07.PMVL_011		N N KS S T I K R					438
B.DO.05.05DO_160884							434
B.DO.09.EC003		AN AT N K S GS T A I K R ND					440
B.ES.09.P2149_3		M T P A K K S RT I K R R					436
B.FR.92.92FR BX08	K	D D K K K T I K R N					436
B.GA.88.OYI_397		N V V K K T I K R					435
B.GE.03.03GEM2004		A A V V K K T I K R					431
B.HT.05.05HT_129389		TNA I GSH K T I K R #					433
B.IW.x.11887		G S S S					433
B.JM.05.05JM_KJ108	CT D	ISKSA PD T I					436
B.JP.05.DR6538		S V I I					436
B.KR.04.04KMH5		A P N T I K					436
B.MM.00.mSTD101	K	APA H RT I K X X X X					439
B.NL.00.671_00136		S NS A K XG K R I I KH E					435
B.PE.07.502_2649_w08		A S QN K G RNI L K					434
B.PY.03.03PY_PSP0115		S Q X KX K RS R X I X X X					436
B.RU.04.04RU128005	X	T D S A V N V T I K R					437
B.TH.00.00TH_C3198		T D R G S					436
B.TT.01.01TT_CRC50069		T D R G S					436
B.TW.94.TWCYS_LM49		T D R G S					434
B.UA.01.01UAKV167		T D R G S					435
B.US.11.E538	K	D D R M G S					433
B.UY.02.02UY_TSU1290		D D S G S					437
B.YE.02.02YE007	K	D D S G S					436
B.ZA.03.03ZAPS045MB2		T D S G S R					436
C.AR.01.ARG4006	K	F T D D R G S					431
C.BR.04.04BR013	K	F T D D R G S					433
C.BW.00.00BW07621	K	F T D D R G S					432
C.CN.98.YNRL9840	K	F T D D R G S					431
C.CY.09.CY266	K	F T D D R G S					437
C.EF.07.X2118_2		F T D D R G S					431
C.ET.02.02ET_258	K	F T D D R G S					431
C.GE.03.03GEM2033	K	F T D D R G S					430
C.IL.98.98IS002	K	F T D D R G S					432
C.IN.03.D24	K	F T D D R G S					437
C.KE.09.KER2010	K	F T D D R G S					430
C.MM.00.mIDU101_3	K	F T D D R G S					430
C.MW.93.93MW_965	K	F ST D D N R SG S					431
C.SN.90.90SE_364	K	F T D D R AG S					430
C.SO.89.89SM_145	K	F T D D R G S					432
C.TZ.02.C0178	K	F T D D R G S					430
C.US.90.90US_MSC3018	K	F V T D D R G S					427
C.UY.01.TRA3011	K	F T D D R G S					430
C.YE.02.02YE511	K	F T D D R G S					430
C.ZA.05.05ZAPSK240B1	K	F A D D R G S					430
C.ZM.02.02ZM108	K	F ST D D S R G S					435
D.CD.83.ELI		D					437
D.CM.01.01CM_0009BBY		D					431
D.CY.06.CY163		D					436
D.KE.97.ML415_2	K	V D D					437
D.KR.04.04KBH8	K						436
D.SN.90.SE365		D N AG S					437
D.TD.99.MN011		D D G					437
D.TZ.01.A280		D D V S I					431
D.UG.99.99UGK09958		D D S I					433
D.YE.02.02YE516		D G S					435
D.ZA.90.R1		D O					437
F1.AO.06.AO_06_ANG125	K	F A T D D					398
F1.AR.02.ARE933	K	F A T D D G SG					431
F1.BE.93.VI850	K	F V T D G D TG					430
F1.BR.07.07BR844	K	F T D D S					436
F1.CY.08.CY222	K	F T D D G D I					430
F1.ES.x.P1146		F A T G D I					431
F1.FI.93.FIN9363		F A T G D D S I G IG					432
F1.FR.96.96FR_MP411		F T G D S H					431
F1.FU.96.96FU_R07	K	F T G D DS XR					431
F1.RU.08.D88_845	K	F T G D I G TG					437
F2.CM.97.CM53657	K	F T G D I G OG					428
G.BE.96.DRCBL		F T S D I R AG OG					430
G.CM.04.178_15	K	F T D D I R AG					432
G.CN.08.GX_2084_08	K	F T D D R G TG					433
G.CU.99.CU74	K	F T G D A R G					437
G.ES.09.X2634_2	K	F T G D R A					434
G.GH.03.03GH175G		F A T H I S TG					435



	p1 end	p6 start	Vpr binding	Vpr binding	p6 end, Gag end	Gag end
B. FR. 83. HXB2	.....	.....	.....	.....	.....	.....
A1. AU. 03. PS1044 Day0	.....	.....	.....	.....	.....	.....
A1. ES. 06. X2110	.....	.....	.....	.....	.....	.....
A1. GE. 99. 99GEM2011	.....	.....	.....	.....	.....	.....
A1. IT. 02. 60000	.....	.....	.....	.....	.....	.....
A1. KE. 06. 06KECst_001	.....	.....	.....	.....	.....	.....
A1. RU. 08. Poka1Ru	.....	.....	.....	.....	.....	.....
A1. RW. 93. 93RW037A	.....	.....	.....	.....	.....	.....
A1. SE. 95. SE8538	.....	.....	.....	.....	.....	.....
A1. TZ. 01. A341	.....	.....	.....	.....	.....	.....
A1. UA. 01. 01UADN139	.....	.....	.....	.....	.....	.....
A1. UG. 99. 99UGAG7072	.....	.....	.....	.....	.....	.....
A1. ZA. 04. 04ZASK162B1	.....	.....	.....	.....	.....	.....
A2. CD. 97. 97CDKT848	.....	.....	.....	.....	.....	.....
A2. CM. 01. 01CM 1445MV	.....	.....	.....	.....	.....	.....
A2. CY. 94. 94CY017 41	.....	.....	.....	.....	.....	.....
B. AR. 04. 04AR143170	.....	.....	.....	.....	.....	.....
B. AU. 04. PS1038 Day174	.....	.....	.....	.....	.....	.....
B. BO. 99. B0L0122	.....	.....	.....	.....	.....	.....
B. BR. 06. 06BR1119	.....	.....	.....	.....	.....	.....
B. CA. 07. 502 1191_03	.....	.....	.....	.....	.....	.....
B. CN. 09. 1121	.....	.....	.....	.....	.....	.....
B. CO. 01. PCM001	.....	.....	.....	.....	.....	.....
B. CU. 99. Cu19	.....	.....	.....	.....	.....	.....
B. CY. 09. CY266	.....	.....	.....	.....	.....	.....
B. DE. 86. D31	.....	.....	.....	.....	.....	.....
B. DK. 07. PMVL 011	.....	.....	.....	.....	.....	.....
B. DO. 05. 05D0 160884	.....	.....	.....	.....	.....	.....
B. EC. 99. EC003	.....	.....	.....	.....	.....	.....
B. ES. 09. P2149 3	.....	.....	.....	.....	.....	.....
B. FR. 92. 92FR BX08	.....	.....	.....	.....	.....	.....
B. GA. 88. OYI 397	.....	.....	.....	.....	.....	.....
B. GE. 03. 03GEM2004	.....	.....	.....	.....	.....	.....
B. HT. 05. 05HT 129389	.....	.....	.....	.....	.....	.....
B. IW. x. 11887	.....	.....	.....	.....	.....	.....
B. JM. 05. 05JM KJ108	.....	.....	.....	.....	.....	.....
B. JP. 05. DR6538	.....	.....	.....	.....	.....	.....
B. KR. 04. 04KMH5	.....	.....	.....	.....	.....	.....
B. MM. 99. mSTD101	.....	.....	.....	.....	.....	.....
B. NL. 00. 671 00136	.....	.....	.....	.....	.....	.....
B. PE. 07. 502 2649 w08	.....	.....	.....	.....	.....	.....
B. PY. 03. 03PY P5P0115	.....	.....	.....	.....	.....	.....
B. RU. 04. 04RU128005	.....	.....	.....	.....	.....	.....
B. TH. 00. 00TH C3198	.....	.....	.....	.....	.....	.....
B. TT. 01. 01TT CRC50069	.....	.....	.....	.....	.....	.....
B. TW. 94. TWCSY LM49	.....	.....	.....	.....	.....	.....
B. UA. 01. 01UAKV167	.....	.....	.....	.....	.....	.....
B. US. 11. ES38	.....	.....	.....	.....	.....	.....
B. UY. 02. 02UY TSU1290	.....	.....	.....	.....	.....	.....
B. YE. 02. 02YES0	.....	.....	.....	.....	.....	.....
B. ZA. 03. 03ZAP5045MB2	.....	.....	.....	.....	.....	.....
C. AR. 01. ARG4006	.....	.....	.....	.....	.....	.....
C. BR. 04. 04BR013	.....	.....	.....	.....	.....	.....
C. BW. 00. 00BW07621	.....	.....	.....	.....	.....	.....
C. CN. 98. YNRL9840	.....	.....	.....	.....	.....	.....
C. CY. 09. CY266	.....	.....	.....	.....	.....	.....
C. ES. 07. X2118 2	.....	.....	.....	.....	.....	.....
C. ET. 02. 02ET 258	.....	.....	.....	.....	.....	.....
C. GE. 03. 03GEM2033	.....	.....	.....	.....	.....	.....
C. IL. 98. 98IS002	.....	.....	.....	.....	.....	.....
C. IN. 03. D24	.....	.....	.....	.....	.....	.....
C. KE. 00. KER2010	.....	.....	.....	.....	.....	.....
C. MM. 99. mIDU101 3	.....	.....	.....	.....	.....	.....
C. MW. 93. 93MW 965	.....	.....	.....	.....	.....	.....
C. SN. 90. 90SE 364	.....	.....	.....	.....	.....	.....
C. SO. 89. 89SM 145	.....	.....	.....	.....	.....	.....
C. TZ. 02. C0178	.....	.....	.....	.....	.....	.....
C. US. 90. 90US MSC3018	.....	.....	.....	.....	.....	.....
C. UY. 01. TRA3011	.....	.....	.....	.....	.....	.....
C. YE. 02. 02YES11	.....	.....	.....	.....	.....	.....
C. ZA. 05. 05ZAPSK240B1	.....	.....	.....	.....	.....	.....
C. ZM. 02. 02ZM108	.....	.....	.....	.....	.....	.....
D. CD. 83. ELI	.....	.....	.....	.....	.....	.....
D. CM. 01. 01CM 0009BBY	.....	.....	.....	.....	.....	.....
D. CY. 06. CY163	.....	.....	.....	.....	.....	.....
D. KE. 97. ML415 2	.....	.....	.....	.....	.....	.....
D. KR. 04. 04KBH8	.....	.....	.....	.....	.....	.....
D. SN. 90. SE365	.....	.....	.....	.....	.....	.....
D. TD. 99. MN011	.....	.....	.....	.....	.....	.....
D. TZ. 01. A280	.....	.....	.....	.....	.....	.....
D. UG. 99. 99UGK09958	.....	.....	.....	.....	.....	.....
D. YE. 02. 02YES16	.....	.....	.....	.....	.....	.....
D. ZA. 90. R1	.....	.....	.....	.....	.....	.....
F1. AO. 06. AO 06 ANG125	.....	.....	.....	.....	.....	.....
F1. AR. 02. ARE933	.....	.....	.....	.....	.....	.....
F1. BE. 93. V1850	.....	.....	.....	.....	.....	.....
F1. BR. 07. 07BR844	.....	.....	.....	.....	.....	.....
F1. CY. 08. CY222	.....	.....	.....	.....	.....	.....
F1. ES. x. P1146	.....	.....	.....	.....	.....	.....
F1. FI. 93. FIN9363	.....	.....	.....	.....	.....	.....
F1. FR. 96. 96FR MP411	.....	.....	.....	.....	.....	.....
F1. RO. 96. BC1 R07	.....	.....	.....	.....	.....	.....
F1. RU. 08. 08R8 845	.....	.....	.....	.....	.....	.....
F2. CM. 97. CM53657	.....	.....	.....	.....	.....	.....
G. BE. 96. DRCL	.....	.....	.....	.....	.....	.....
G. CM. 04. 178 15	.....	.....	.....	.....	.....	.....
G. CN. 08. GX 2084 08	.....	.....	.....	.....	.....	.....
G. CU. 99. C074	.....	.....	.....	.....	.....	.....
G. ES. 09. X2634 2	.....	.....	.....	.....	.....	.....
G. GH. 03. 03GH175G	.....	.....	.....	.....	.....	.....



	p1 end	p6 start	Vpr binding	Vpr binding	Gag end				
	IV.P.SYK	.G.RPGNFLQS	RP.EPTA	PPPEESFRSGVETTPP	QKQEP	IDK	ELY	PLTSLRSLFGNDPSSQ*	
B.FR.83.HXB2									500
G.KE.93.HH8793.12.1									499
G.NG.09.09NG.SC62									493
G.PT.X.PT2695									497
G.SE.93.SE6165.G6165									498
H.BE.93.VI991									501
H.BE.93.VI997									500
H.CF.98.856									501
H.GB.00.00GBCA4001									500
J.CD.97.J.97DC.KTB147									479
J.CM.04.04CMU11421									497
J.SE.93.SE9280.7887									498
J.SE.94.SE9173.7022									498
K.CD.97.97ZR.E0TB11									496
K.CM.96.96CM.MP535									496
01.AE.AF.07.569M									499
01.AE.CF.98.98CF11697									499
01.AE.CN.09.1119									499
01.AE.HK.04.HK001									496
01.AE.JP.X.DR0492									499
01.AE.TH.04.BKM									498
01.AE.US.00.00U.MSC1164									499
01.AE.VN.98.98V.NMD15									498
02.AG.CM.02.02CM.0013BBY									491
02.AG.CY.09.CY256									495
02.AG.ES.06.P1261									495
02.AG.FR.91.DJ263									495
02.AG.GH.03.03GH181AG									496
02.AG.LR.X.POC44951									495
02.AG.NG.09.09NG.SC61									493
02.AG.SE.94.SE7812									495
02.AG.SN.98.98SE.MP1211									495
02.AG.US.06.06U.2696.FL01									495
02.AG.UZ.02.02UZ0683									493
03.AB.RU.97.KAL153.2									499
04.CPX.CY.94.94CY032.3									501
05.DF.BE.X.VI1310									503
06.CPX.AU.96.BFP90									500
07.BC.CN.98.98CN009									496
08.BC.CN.06.NX2									487
09.CPX.GH.96.96GH2911									497
10.CD.TZ.96.96TZ.BF061									501
11.CPX.CM.95.95CM.1816									497
12.BF.AR.99.ARM159									494
13.CPX.CM.96.96CM.1849									508
14.BG.ES.05.X1870									497
15.01B.TH.99.99TH.MU2079									498
16.A2D.KR.97.97KR004									499
17.BF.AR.99.ARM4038									501
18.CPX.CU.99.CU76									497
19.CPX.CU.99.CU7									501
20.BG.CU.99.CU103									497
21.A2D.KE.99.KEP2003									499
22.01A1.CM.01.01CM.0001BBY									500
23.BG.CU.03.CB118									498
24.BG.ES.08.X2456.2									497
25.CPX.CM.02.1918LE									499
26.AU.CD.02.02CD.MBT047									496
27.CPX.FR.04.04CD.FR.KZ5									497
28.BF.BR.99.BREPM12609									500
29.BF.BR.01.BREPM16704									510
31.BC.BR.04.04BR142									506
32.06A1.EE.01.EE0369									495
33.01B.ID.07.JKT189.C									497
34.01B.TH.99.09R2478P									498
35.AD.AF.07.169H									497
36.CPX.CM.00.00CMNYU830									498
37.CPX.CM.00.00CMNYU926									493
38.BF1.UY.03.UY03.3389									499
39.BF.BR.04.04BRRJ179									502
40.BF.BR.05.05BRRJ055									500
42.BF.LU.03.LUBF.05.03									503
43.02G.SA.03.J11223									498
44.BF.CL.00.CH80									501
45.CPX.FR.04.04FR.AUK									499
46.BF.BR.07.07BR.FP5625									496
47.BF.ES.08.P1942									498
48.01B.MY.07.07MYKT021									499
49.CPX.GM.03.N26677									496
51.01B.SG.11.11SG.HM021									499
0.BE.87.ANT70									501
0.CM.91.MVP5180									501
0.CM.96.96CMA182									500
0.CM.98.98CMA184									501
0.CM.99.99CMA4122									501
0.FR.92.VAU									501
0.SN.99.99SE.MP1299									500
0.US.97.97US90692A									500
0.US.99.99USTWL									501
N.CM.02.DJ00131									513
N.CM.04.04CM.1615.04									512
N.CM.06.U14842									513
N.CM.95.YBF30									513
N.CM.97.YBF106									512
N.FR.11.N1.FR.2011									513
P.CM.06.U14788									495
P.FR.09.RBF168									497
CPZ.CD.90.ANT									525
CPZ.CM.05.SIVcpzMT145									492
CPZ.GA.88.GAB1									509
CPZ.TZ.00.TAN1									526
CPZ.US.85.US.Marilyn									506









	polymerase motif	T215Y	K219Q	
B. FR. 83. HXB2	.....T.....	.....	.....	.....
A1. AU. 03. P51044_Day0	.....Y AK.....I.....	.....	.....	.....
A1. ES. 06. X2110	.....L K.....E I.....	.....	.....	.....
A1. GE. 99. 99GEM2011	.....C.....	.....	.....	.....
A1. IT. 02. 60000	.....X.....X.....	.....	.....	.....
A1. KE. 06. 06KECst_001	.....A.....	.....	.....	.....
A1. RU. 08. Poka1Ru	.....S A.....	.....	.....	.....
A1. RW. 93. 93RW037A	.....T V.....	.....	.....	.....
A1. SE. 95. SE8538	.....S.....	.....	.....	.....
A1. TZ. 01. A341	.....T.....	.....	.....	.....
A1. UA. 01. 01UADN139	.....S.....	.....	.....	.....
A1. UG. 99. 99UGAG7072	.....L K.....	.....	.....	.....
A1. ZA. 04. 04ZASK162B1	.....T V.....	.....	.....	.....
A2. CD. 97. 97CDKT848	.....I D AR EM.....	.....	.....	.....
A2. CM. 01. 01CM_1445MV	.....I D AR EM.....	.....	.....	.....
A2. CY. 94. 94CY017_41	.....T V.....	.....	.....	.....
B. AR. 04. 04AR143170	.....X T.....X.....	.....	.....	.....
B. AU. 04. P51038_Day174	.....T.....	.....	.....	.....
B. BO. 99. B0L0122	.....T.....	.....	.....	.....
B. BR. 06. 06BR1119	.....T.....	.....	.....	.....
B. CA. 07. 502_1191_03	.....A.....	.....	.....	.....
B. CN. 09. 1121	.....X.....	.....	.....	.....
B. CO. 01. PCM001	.....T V.....	.....	.....	.....
B. CU. 99. Cui19	.....T.....	.....	.....	.....
B. CY. 09. CY266	.....T V.....	.....	.....	.....
B. DE. 86. D31	.....T.....	.....	.....	.....
B. DK. 07. PMVL_011	.....T.....	.....	.....	.....
B. DO. 05. 05D0_160884	.....T.....	.....	.....	.....
B. EC. 09. EC003	.....T.....	.....	.....	.....
B. ES. 09. P2149_3	.....T.....	.....	.....	.....
B. FR. 92. 92FR BX08	.....X.....	.....	.....	.....
B. GA. 88. OYI_397	.....T.....	.....	.....	.....
B. GE. 03. 03GEM2004	.....X X.....XX.....	.....	.....	.....
B. HT. 05. 05HT_129389	.....T.....	.....	.....	.....
B. IN. x. 11897	.....T.....	.....	.....	.....
B. JM. 05. 05JM_KJ108	.....V X.....	.....	.....	.....
B. JP. 05. DR6538	.....V.....	.....	.....	.....
B. KR. 04. 04KMH5	.....V V.....	.....	.....	.....
B. MM. 09. mSTD101	.....T.....	.....	.....	.....
B. NL. 00. 671_09136	.....T.....	.....	.....	.....
B. PE. 07. 502_2649_w08	.....T.....	.....	.....	.....
B. PY. 03. 03PY_PSP0115	.....T.....	.....	.....	.....
B. RU. 04. 04RUI28005	.....V.....	.....	.....	.....
B. TH. 00. 00TH_C3198	.....T.....	.....	.....	.....
B. TT. 01. 01TT_CRC50069	.....T.....	.....	.....	.....
B. TW. 94. TWCSY_LM49	.....R.....	.....	.....	.....
B. UA. 01. 01UAKV167	.....R.....	.....	.....	.....
B. US. 11. ES38	.....T.....	.....	.....	.....
B. UY. 02. 02UY_TSU1290	.....L.....	.....	.....	.....
B. YE. 02. 02YES07	.....L.....	.....	.....	.....
B. ZA. 03. 03ZAP5045MB2	.....L.....	.....	.....	.....
C. AR. 01. ARG4006	.....K.....	.....	.....	.....
C. BR. 04. 04BR013	.....K.....	.....	.....	.....
C. BW. 00. 00BW07621	.....K.....	.....	.....	.....
C. CN. 98. YNRL9840	.....K.....	.....	.....	.....
C. CY. 09. CY266	.....A X.....	.....	.....	.....
C. EZ. 07. X218_2	.....T.....	.....	.....	.....
C. ET. 02. 02ET_258	.....T.....	.....	.....	.....
C. GE. 03. 03GEM2033	.....T.....	.....	.....	.....
C. IL. 98. 98IS002	.....S.....	.....	.....	.....
C. IN. 03. D24	.....R.....	.....	.....	.....
C. KE. 09. KER2010	.....R.....	.....	.....	.....
C. MM. 09. mIDU101_3	.....R.....	.....	.....	.....
C. MW. 93. 93MW_965	.....S.....	.....	.....	.....
C. SN. 90. 90SE_364	.....T.....	.....	.....	.....
C. SO. 89. 89SM_145	.....T.....	.....	.....	.....
C. TZ. 02. C0178	.....T.....	.....	.....	.....
C. US. 90. 90US_MSC3018	.....T.....	.....	.....	.....
C. UY. 01. TRA3011	.....T.....	.....	.....	.....
C. YE. 02. 02YE511	.....T.....	.....	.....	.....
C. ZA. 05. 05ZAPSK240B1	.....V.....	.....	.....	.....
C. ZM. 02. 02ZM108	.....C.....	.....	.....	.....
D. CD. 83. ELI	.....S.....	.....	.....	.....
D. CM. 01. 01CM_0009BBY	.....T.....	.....	.....	.....
D. CY. 06. CY163	.....T.....	.....	.....	.....
D. KE. 97. ML415_2	.....T.....	.....	.....	.....
D. KR. 04. 04KBH8	.....T.....	.....	.....	.....
D. SN. 90. SE365	.....T.....	.....	.....	.....
D. TD. 99. MM011	.....T.....	.....	.....	.....
D. TZ. 01. A280	.....T.....	.....	.....	.....
D. UG. 99. 99UGK09958	.....T.....	.....	.....	.....
D. YE. 02. 02YE516	.....T.....	.....	.....	.....
D. ZA. 90. R1	.....T.....	.....	.....	.....
F1. AO. 06. AO_06_ANG125	.....V K K.....	.....	.....	.....
F1. AR. 02. ARE933	.....V.....	.....	.....	.....
F1. BE. 93. V1850	.....V.....	.....	.....	.....
F1. BR. 07. 07BR844	.....L.....	.....	.....	.....
F1. CY. 08. CY222	.....L.....	.....	.....	.....
F1. ES. x. P1146	.....F L.....	.....	.....	.....
F1. FI. 93. FIN9363	.....V.....	.....	.....	.....
F1. FR. 96. 96FR_MP411	.....L.....	.....	.....	.....
F1. RO. 96. BC1_R07	.....L.....	.....	.....	.....
F1. RU. 08. 08R_845	.....L.....	.....	.....	.....
F2. CM. 97. CM53657	.....L.....	.....	.....	.....
G. BE. 96. DRCL	.....T.....	.....	.....	.....
G. CM. 04. 178_15	.....T.....	.....	.....	.....
G. CN. 08. GX_2084_08	.....T X.....X.....	.....	.....	.....
G. CU. 99. CU74	.....T.....	.....	.....	.....
G. ES. 09. X2634_2	.....T.....	.....	.....	.....
G. GH. 03. 03GH175G	.....T.....	.....	.....	.....

Strain	polymerase motif	K219Q	T215Y
B.FR.83.HXB2	-----T-----P-----	IK-EM	A-K-E-F
G.KE.93.HH8793.12.1	-----T-----P-----	IK-EM	A-K-E-F
G.NG.09.09NG.5C62	-----T-----P-----	IK-EM	A-K-E-F
G.PT.x.PT2695	-----T-----P-----	IK-EM	A-K-E-F
G.SE.93.SE6165.66165	-----V-----R-----	AN-EM	A-E-K-F
H.BE.93.VI991	-----T-----	EVI	E-A-F-Q
H.BE.93.VI997	-----T-----	EVI	E-A-F-Q
H.CF.99.056	-----T-----	EVI	E-A-F-Q
H.GB.00.00GBAC4001	-----T-----	EM	A-K-F
J.CD.97.J.97DC.KTB147	-----T-----	EM	A-K-F
J.CM.04.04CMU11421	-----XX--X-----	AK-EV	E-K-E-X
J.SE.93.SE9280.7887	-----C-----	TK-XL	A-X-XE-X-K
J.SE.94.SE9173.7022	-----C-----	ER-EM	E-R-K-E
K.CD.97.97ZR.E0TB11	-----C-----	ER-EM	E-R-K-E
K.CM.96.96CM.MP535	-----T-----	IK-EM	A-E-K-F
01.AE.AF.07.569M	-----T-----	KIK-EM	X
01.AE.CF.98.90CF11697	-----T-----	Y-EM	A-S-F
01.AE.CN.09.1119	-----T-----	IK-EM	I-A-S-F
01.AE.HK.04.HK001	-----C-----	AN-I	I-A-S-F
01.AE.JP.x.DR0492	-----L-----	CKT-EM	A-A-WS-F-F
01.AE.TH.04.BKM	-----C-----	IK-EM	A-A-S-F
01.AE.US.00.00U.MSC1164	-----C-----	IK-EM	A-A-S-F
01.AE.VN.98.98VNM15	-----C-----	IK-EM	A-A-S-F
02.AG.CM.02.02CM.0013BBY	-----V-A-----	TR-EM	Q-E-A-V-E-S-F
02.AG.CY.09.CY256	-----V-A-----	Y-T-EM	X
02.AG.ES.06.P1261	-----XV-----	IK-EM	A-S-K-F
02.AG.FR.91.DJ263	-----T-----	N-HY-EM	E-A-E-K-F
02.AG.GH.03.03GH181AG	-----V-A-----	TN-EM	E
02.AG.LR.x.P0C44951	-----V-A-----	TK-EM	A-Q-D-K-F
02.AG.NG.09.09NG.5C61	-----V-A-----	AK-EM	A-E-E-K-F
02.AG.SE.94.SE7812	-----V-A-----	TK-EM	A-E-E-K-F
02.AG.SN.98.98SE.MP1211	-----V-A-----	TK-EM	A-E-E-K-F
02.AG.US.06.06U.FL01	-----V-K-----	AK-EM	Q-A-E-K-F
02.AG.UZ.02.02UZ0683	-----T-----	IK-EM	A-E-K-F
03.AB.RU.97.KAL153.2	-----T-----	E-EM	A-E-E-K-F
04.cpx.CY.94.94CY032.3	-----T-----	FK-EM	A-E-E-K-F
05.DF.BE.x.VI1310	-----T-----	I-EM	A-E-K-F
05.cpx.AU.96.BFP00	-----T-----	IK-EM	A-E-K-F
07.BC.CN.98.98BCN009	-----T-----	A	C
08.BC.CN.06.nx2	-----V-A-----	IK-EM	A-K-E-K-F
09.cpx.GH.96.96GH2911	-----V-A-----	EM	A-E-E-K-F
10.CD.TZ.96.96TZ.BF061	-----V-A-----	QM-EM	Q-H-TL-E-V-K-F
12.cpx.CM.95.95CM.1816	-----CV-T-----	T-EM	E-V-K-F
12.BF.AR.99.ARMA159	-----V-A-----	T-EM	E-V-R-F
13.cpx.CM.96.96CM.1849	-----V-A-----	CK-EM	A-A-S-F
14.BG.ES.05.X1870	-----V-A-----	TK-EM	A-E-E-K-F
15.01B.TH.99.99TH.MU2079	-----T-----	C	A-S-F
16.A2D.KR.97.97KR004	-----T-----	R	E-R-E-K-F
17.BF.AR.99.ARMA038	-----V-A-----	E-L-EM	E-K-F
18.cpx.CU.99.CU176	-----V-A-----	D-EM	E-K-F
19.cpx.CU.99.CU7	-----V-A-----	D	E-K-F
20.BG.CU.99.CU103	-----V-A-----	D	E-K-F
21.A2D.KE.99.KER2003	-----T-----	R-D-EM	E-I-D-A-S-F
22.01A1.CM.01.01CM.0001BBY	-----V-A-----	R-EM	E-I-D-A-S-F
23.BG.CU.03.CB119	-----L-----	X-EM	A-E-K-F
24.BG.ES.08.X2456.2	-----T-----	GT-EM	A-E-K-F
25.cpx.CM.02.1918LE	-----V-A-----	AK-EM	A-E-K-F
26.AU.CD.02.02CD.MBT047	-----V-A-----	R-EM	A-E-K-F
27.cpx.FR.04.04CD.FR.K25	-----V-A-----	R-EM	A-E-K-F
29.BF.BR.99.BREP12609	-----V-A-----	R-EM	E-K-F
29.BF.BR.01.BREP16704	-----V-A-----	R-EM	E-K-F
31.BC.BR.04.04BR142	-----V-A-----	R-EM	E-K-F
32.06A1.EE.01.EE0369	-----V-A-----	R-EM	E-K-F
33.01B.ID.07.JKT189.C	-----V-A-----	R-EM	E-K-F
34.01B.TH.99.09R2478P	-----V-A-----	C	I
35.AD.AF.07.169H	-----V-A-----	I-EM	I-A-K-F
36.cpx.CM.00.00CMNYU830	-----V-A-----	A-EM	A-K-N-F
37.cpx.CM.00.00CMNYU926	-----V-A-----	A-EM	A-K-N-F
38.BF1.UY.03.UY03.3389	-----V-A-----	A-EM	A-K-N-F
39.BF.BR.04.04BRRJ179	-----V-A-----	C	Q
40.BF.BR.05.05BRBJ055	-----V-A-----	C	Q
42.BF.LU.03.LuBF.05.03	-----T-----	X-X	X
43.02G.SA.03.J11223	-----T-----	C	X
44.BF.CL.00.CH80	-----T-----	V	X
45.cpx.FR.04.04FR.AUK	-----V-A-----	TR-EM	A-E-K-F
46.BF.BR.07.07BR.FP5625	-----V-A-----	C	A
47.BF.ES.08.P1942	-----V-A-----	AK-EM	E-K-F
48.01B.MY.07.07MYKT021	-----V-A-----	C	A
49.cpx.GM.03.N26677	-----V-A-----	#K-EM	E-K-F
51.01B.SG.11.11SG.HM021	-----V-A-----	D	I
0.BE.87.ANT70	-----V-A-----	D	R
0.CM.91.MVP5180	-----V-A-----	D	R
0.CM.96.96CM102	-----V-A-----	D	R
0.CM.98.98CM104	-----V-A-----	D	R
0.CM.99.99CMU4122	-----V-A-----	D	R
0.FR.92.VAU	-----V-A-----	D	R
0.SN.99.99SE.MP1299	-----V-A-----	D	R
0.US.97.97US90692A	-----V-A-----	D	R
0.US.99.99US176	-----V-A-----	D	R
N.CM.02.DJ00131	-----V-A-----	X	X
N.CM.04.04CM.1015_04	-----V-A-----	T-X	X
N.CM.06.U14842	-----V-A-----	V	X
N.CM.05.YBF30	-----V-A-----	T-X	X
N.CM.97.YBF106	-----V-A-----	T-X	X
N.FR.11.N1.FR.2011	-----V-A-----	T	X
P.CM.06.U1708	-----V-A-----	D	X
P.FR.09.RBF168	-----V-A-----	D	X
CPZ.CD.90.ANT	-----V-A-----	C	X
CPZ.CM.05.SIVcpzMT145	-----V-A-----	A	X
CPZ.GA.88.GAB1	-----V-A-----	S	X
CPZ.TZ.00.TAN1	-----L-N-K-F-----	D	X
CPZ.US.85.US.Marilyn	-----V-A-----	D	X
KYTAFTIPSINNETPGIRYQNVLPQMGKSPAIFQSMTKIELEPRKQPDIYIYQYMDLLYVGSDEIQGHRTKIEELRQHLRWGLTTPDKK.HQKEPPFLMWMGYELHPDKWTVQPIVLEKDSWTVNDIQKLVGKLNWSAQIYPGIKVRQLCKLLRGTGKALTEVIP			







p66 RT, p15 Rnase H end, p31 Integrase start

Accession	Sequence	785
B.FR.83.HXB2	...RQKQVTLTDDTTNQKTELQAIYLALQDSGLEVNIIVTDSQYALGIIQAQPODSESELVNIIEQLIKKKEVYLAWVPAHKIGGNEQVDKLVSA	785
A1.AU.03.P51044_Day0	...S E H S R K G D S S R R T I I C	785
A1.ES.06.X2110	...S E H S R K G D S S R R T I I C	785
A1.GE.99.99GEMZ011	...P E H H V R R A V K K F R S S N R E D K I I M	785
A1.IT.02.60000	...P E H H V R R A V K K F R S S N R E D K I I M	785
A1.KE.06.06KECst_001	...P E H H V R R A V K K F R S S N R E D K I I M	785
A1.RU.08.Poka1Ru	...P E H H V R R A V K K F R S S N R E D K I I M	785
A1.RW.93.93RW037A	...R S E H H L SA H R N K K G D S S N R R D R K T I I V	785
A1.SE.95.5E8538	...S S E H H L SA H R N K K G D S S N R R D R K T I I V	785
A1.TZ.01.A341	...S S E H H L SA H R N K K G D S S N R R D R K T I I V	785
A1.UA.01.01UADN139	...K S E H H L SA H R N K K G D S S N R R D R K T I I V	785
A1.UG.99.99UGAG7072	...S S E H H L SA H R N K K G D S S N R R D R K T I I V	785
A1.ZA.04.04ZASK162B1	...P E A H L SA H R N K K G D S S N R R D R K T I I V	785
A2.CD.97.97CDKT848	...I P E H H L SA H R N K K G D S S N R R D R K T I I V	785
A2.CM.01.01CM.1445MV	...I S E H H L SA H R N K K G D S S N R R D R K T I I V	785
A2.CY.94.94CY017_41	...I S E H H L SA H R N K K G D S S N R R D R K T I I V	785
B.AR.04.04AR143170	...X A P H E H H K K I S E N I NE D R T X XI	785
B.AU.04.P51038_Day174	...S S H H H X K R I S S E N I NE D R T X XI	785
B.BO.99.B0L0122	...S S H H H X K R I S S E N I NE D R T X XI	785
B.BR.06.06BR1119	...S S H H H X K R I S S E N I NE D R T X XI	785
B.CA.07.502.1191_03	...I N H H H X K R I S S E N I NE D R T X XI	785
B.CN.09.1121	...A I H H H X K R I S S E N I NE D R T X XI	785
B.CO.01.PCM001	...K S S H H H X K R I S S E N I NE D R T X XI	785
B.CU.99.Cu19	...K S S H H H H X K R I S S E N I NE D R T X XI	785
B.CY.09.CY266	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.DE.86.D31	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.DK.07.PMVL_011	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.DO.05.05D0.160884	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.EC.09.EC003	...A S S H H H H X K R I S S E N I NE D R T X XI	785
B.ES.09.P2149_3	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.FR.92.92FR BX08	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.GA.88.OYI_397	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.GE.03.03GEMZ004	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.HT.05.05HT.129389	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.HV.x.11887	...S S S H H H H X K R I S S E N I NE D R T X XI	785
B.JM.05.05JM.KJ108	...I S H A H H H X K R I S S E N I NE D R T X XI	785
B.JP.05.05DR6538	...H A H H H X K R I S S E N I NE D R T X XI	785
B.KR.04.04KMH5	...P H H H H X K R I S S E N I NE D R T X XI	785
B.MI.99.mST101	...I H H H H X K R I S S E N I NE D R T X XI	785
B.NL.00.671.00136	...I PIK H H H X K R I S S E N I NE D R T X XI	785
B.PE.07.502.2649_w08	...A P H H H X K R I S S E N I NE D R T X XI	785
B.PY.03.03PY.PSP0115	...S M S H H H X K R I S S E N I NE D R T X XI	785
B.RU.04.04RU128005	...S S H H H X K R I S S E N I NE D R T X XI	785
B.TH.00.00TH.C3198	...S S H H H X K R I S S E N I NE D R T X XI	785
B.TI.01.01TI.CRC50069	...S S H H H X K R I S S E N I NE D R T X XI	785
B.TW.94.TWCYS.LM49	...S S H H H X K R I S S E N I NE D R T X XI	785
B.UA.01.01UAKV167	...S S H H H X K R I S S E N I NE D R T X XI	785
B.US.11.E538	...N N H H H X K R I S S E N I NE D R T X XI	785
B.UY.02.02UY.TSU1290	...P I H H H X K R I S S E N I NE D R T X XI	785
B.YE.02.02YE007	...S S H H H X K R I S S E N I NE D R T X XI	785
B.ZA.03.03ZAP5045MB2	...P H H H X K R I S S E N I NE D R T X XI	785
C.AR.01.ARG4006	...I A H H H X K R I S S E N I NE D R T X XI	781
C.BR.04.04BR013	...I S E H H X K R I S S E N I NE D R T X XI	781
C.BW.00.00BW07621	...R I E H H X K R I S S E N I NE D R T X XI	781
C.CN.98.YNRL9840	...K I S E H H X K R I S S E N I NE D R T X XI	781
C.CY.09.CY266	...I S NE H H X K R I S S E N I NE D R T X XI	781
C.EC.07.X2118_2	...I S NE H H X K R I S S E N I NE D R T X XI	781
C.ES.02.02E1_258	...I S NE H H X K R I S S E N I NE D R T X XI	781
C.GE.03.03GEMZ033	...I I I E A H X K R I S S E N I NE D R T X XI	781
C.IL.98.98IL5002	...I S E H H X K R I S S E N I NE D R T X XI	781
C.IN.03.D24	...K I S E H H X K R I S S E N I NE D R T X XI	781
C.KE.00.KER2010	...I S E H H X K R I S S E N I NE D R T X XI	781
C.MM.00.mIDU101_3	...K S K A H X K R I S S E N I NE D R T X XI	781
C.MW.93.93MW.965	...S I E H H X K R I S S E N I NE D R T X XI	781
C.SN.90.90SE.364	...I S E H H X K R I S S E N I NE D R T X XI	781
C.SO.89.89SM.145	...I S E H H X K R I S S E N I NE D R T X XI	781
C.TZ.02.C0178	...I S E H H X K R I S S E N I NE D R T X XI	781
C.US.90.90US.MSC3018	...I S E H H X K R I S S E N I NE D R T X XI	781
C.UY.01.TRA3011	...I S E H H X K R I S S E N I NE D R T X XI	781
C.YE.02.02YE511	...I S NE A H X K R I S S E N I NE D R T X XI	781
C.ZA.05.05ZAPSK240B1	...I I S E H H X K R I S S E N I NE D R T X XI	781
C.ZM.02.02ZM108	...S I E H H X K R I S S E N I NE D R T X XI	781
D.CD.83.ELI	...P E H H H X K R I S S E N I NE D R T X XI	784
D.CM.01.01CM.0009BBY	...P F E H H H X K R I S S E N I NE D R T X XI	784
D.CY.06.CY163	...S I E H H H X K R I S S E N I NE D R T X XI	784
D.KE.97.ML415_2	...S I E H H H X K R I S S E N I NE D R T X XI	784
D.KR.04.04KBH8	...I P E H H H X K R I S S E N I NE D R T X XI	784
D.SN.90.SE365	...A T P E H H H X K R I S S E N I NE D R T X XI	784
D.TD.99.MM011	...P F E H H H X K R I S S E N I NE D R T X XI	784
D.TZ.01.A280	...S S E H H H X K R I S S E N I NE D R T X XI	784
D.UG.99.99UGK09958	...S S E H H H X K R I S S E N I NE D R T X XI	784
D.YE.02.02YE516	...P F E H H H X K R I S S E N I NE D R T X XI	784
D.ZA.90.R1	...P F E H H H X K R I S S E N I NE D R T X XI	784
F1.A0.06.A0.06.ANG125	...R A S E A H O S R R I I Q S R R I I	787
F1.AR.02.ARE933	...K A P E A K V O S K I I Q R S S N R V I	785
F1.BE.93.VI850	...A S E H A H O I S R R I I Q R S S N R V I	786
F1.BR.07.07BR844	...A S E H A H O I S R R I I Q R S S N R V I	791
F1.CY.08.CY222	...S R E A H H S S K I S R Q O R S S R K N I I	784
F1.ES.x.P1146	...S R E A H H S S K I S R Q O R S S R K N I I	783
F1.FI.93.FIN9363	...S R E A H H S S K I S R Q O R S S R K N I I	784
F1.FR.96.96FR.MP411	...A I E A H H S S K I S R Q O R S S R K N I I	787
F1.RO.96.BC1.R07	...A S E H A H O X K R I S S E N I NE D R T X XI	785
F1.RU.08.D88.845	...P E A H H S S K I S R Q O R S S R K N I I	785
F2.CM.97.CM53657	...P E A H H S S K I S R Q O R S S R K N I I	785
G.BE.96.DRCBL	...I I I E A H O S K R I S S E N I NE D R T X XI	781
G.CM.04.178_15	...K I I I O E A H O S I R R I S S E N I NE D R T X XI	784
G.CN.08.GX.2084_08	...K I I I O E A H O S I R R I S S E N I NE D R T X XI	789
G.CU.99.CU74	...K I I I O E A H O S I R R I S S E N I NE D R T X XI	781
G.ES.09.X2634_2	...K I I I O E A H O S I R R I S S E N I NE D R T X XI	789
G.GH.03.03GH175G	...K I I I O E A H O S I R R I S S E N I NE D R T X XI	785



Accession	Sequence	Position
B.FR.83.HXB2	.....VV.....S-A-K.....N-Q.....E.....E.....R.....I.....H.....	936
A1.AU.03.P51044_Day0	.....VV.....P.....S-A-FK.....SVO.....E.....E.....R.....I.....H.....	936
A1.ES.06.X2110	.....VV.....P.....SSA-K.....D-Q.....X-X.....X-X.....V-X.....E.....E.....R.....I.....H.....	936
A1.GE.99.99GEM2011	.....VV.....P.....SSA-K.....D-Q.....X-X.....X-X.....V-X.....E.....E.....R.....I.....H.....	936
A1.IT.02.60000	.....VV.....P.....SSA-K.....D-Q.....X-X.....X-X.....V-X.....E.....E.....R.....I.....H.....	936
A1.KE.06.06KECst_001	.....VV.....P.....SSA-K.....D-Q.....X-X.....X-X.....V-X.....E.....E.....R.....I.....H.....	936
A1.RU.08.PokaiRu	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	941
A1.RW.93.93RW037A	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A1.SE.95.SE8538	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A1.TZ.01.A341	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A1.UA.01.01UADN139	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A1.UG.99.99UGAG7072	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A1.ZA.04.04ZASK162B1	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A2.CD.97.97CDKT848	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	929
A2.CM.01.01CM.1445MV	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
A2.CY.94.94CY017_41	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.AR.04.04AR143170	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.AU.04.P51038_Day174	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.BO.99.B0L0122	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
B.BR.06.06BR1119	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.CA.07.502_1191_03	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.CN.09.1121	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.CO.01.PCM001	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.CU.99.Cu19	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	939
B.CY.09.CY266	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.DE.86.D31	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.DK.07.PMVL_011	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.DO.05.05D0_160884	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	938
B.EC.09.EC003	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	940
B.ES.09.P2149_3	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.FR.92.92FR.BX08	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
B.GA.88.OYI_397	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.GE.03.03GEM2004	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.HT.05.05HT_129389	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.IW.x.11807	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.JM.05.05JM.KJ108	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
B.JP.05.DR6538	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.KR.04.04KMH5	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.MM.99.mSTD101	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
B.NL.00.671_00136	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	946
B.PE.07.502_2649_w08	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	955
B.PY.03.03PY.PSP0115	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
B.RU.04.04RU120005	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.TH.00.00TH.C3198	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.TT.01.01TT.CRC50069	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
B.TW.94.TWCYS.LM49	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.UA.01.01UAKV167	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	943
B.US.11.E538	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	940
B.UY.02.02UY.TSUI290	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
B.YE.02.02YEST	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
B.ZA.03.03ZAPS045MB2	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
C.AR.01.ARG4006	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.BR.04.04BR013	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	940
C.BW.00.00BW07621	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.CN.98.YNRL9840	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.CY.09.CY268	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	939
C.EF.07.X2118_2	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.ES.02.02ET_258	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	938
C.GE.03.03GEM2033	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.IL.98.98IS002	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
C.IN.03.D24	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	940
C.KE.00.KER2010	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.MM.99.mIDU101_3	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.MW.93.93MW.965	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	933
C.SN.90.90SE.364	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	928
C.S0.89.89SM.145	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	943
C.TZ.02.C0178	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.US.90.90US.MSC3018	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	930
C.UY.01.TRA3011	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	931
C.YE.02.02YEST	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	930
C.ZA.05.05ZAPSK240B1	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
C.ZM.02.02ZM108	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	927
D.CD.83.ELI	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
D.CM.01.01CM.0009BBY	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
D.CY.06.CY163	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
D.KE.97.ML415_2	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
D.KR.04.04KBH8	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
D.SN.90.SE365	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	941
D.TD.99.MN011	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
D.TZ.01.A280	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
D.UG.99.99UGK09958	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
D.YE.02.02YEST	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
D.ZA.90.R1	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
F1.A0.06.A0.06.ANG125	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	938
F1.AR.02.ARE933	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
F1.BE.93.VI850	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	937
F1.BR.07.07BR844	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	942
F1.CY.08.CY222	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
F1.ES.x.P1146	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	934
F1.FI.93.FIN9363	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
F1.FR.96.96FR.MP411	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	938
F1.RO.96.BCI.R07	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
F1.RU.08.08R.845	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
F2.CM.97.CM53657	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936
G.BE.96.DRCBL	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
G.CM.04.178_15	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	935
G.CN.08.GX.2084_08	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	940
G.CU.99.CU74	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	932
G.ES.09.X2634_2	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	940
G.GH.03.03GH175G	.....VV.....P.....SNA-K.....N-Q.....E.....E.....R.....I.....H.....	936

B. FR. 83. HXB2
G. KE. 93. HHR793 12 1
G. NG. 09. 09NG SC62
G. PT. x. PT2695
G. SE. 93. SE6165 G6165
H. BE. 93. VI991
H. BE. 93. VI997
H. CF. 90. 056
H. GB. 00. 00GBAC4001
J. CD. 97. J. 97DC KTB147
J. CM. 04. 04CMU11421
J. SE. 93. SE9280 7887
J. SE. 94. SE9173 7022
K. CD. 97. 97ZR E0TB11
K. CM. 96. 96CM MP535
01 AE. AF. 07. 569M
01 AE. CF. 90. 90CF11697
01 AE. CN. 09. 1119
01 AE. HK. 04. HK001
01 AE. JP. x. DR0492
01 AE. TH. 04. BKM
01 AE. US. 00. 00U MSC1164
01 AE. VN. 98. 98VND15
02 AG. CM. 02. 02CM 0013BBY
02 AG. CY. 09. CY256
02 AG. ES. 06. P1261
02 AG. FR. 91. 03263
02 AG. GH. 03. 03GH181AG
02 AG. LR. x. POC44951
02 AG. NG. 09. 09NG SC61
02 AG. SE. 94. SE7812
02 AG. SN. 98. 98SE MP1211
02 AG. US. 06. 02 7696 FL01
02 AG. UZ. 02. 02UZ0683
03 AB. RU. 97. KAL153 2
04 cpX. CY. 94. 94CY032 3
05 DF. BE. x. VI1310
06 cpX. AU. 96. BFP90
07 BC. CN. 98. 98CN009
08 BC. CN. 06. nx2
09 cpX. GH. 96. 96GH2911
10 CD. TZ. 96. 96TZ BF061
11 cpX. CM. 95. 95CM 1816
12 BF. AR. 99. ARMA159
13 cpX. CM. 96. 96CM 1849
14 BG. ES. 05. X1870
15 01B. TH. 99. 99TH MU2079
16 A2D. KR. 97. 97KR004
17 DF. AR. 99. ARMA038
18 cpX. CU. 99. CU176
19 cpX. CU. 99. CU177
20 BG. CU. 99. CU103
21 A2D. KE. 99. KER2003
22 01A1. CM. 01. 01CM 0001BBY
23 BG. CU. 03. CB119
24 BG. ES. 08. X2456 2
25 cpX. CM. 02. 1918LE
26 AU. CD. 02. 02CD MBT047
27 cpX. FR. 04. 04CFR KZ5
28 BF. BR. 99. BREPM12609
29 BF. BR. 01. BREPM16704
31 BC. BR. 04. 04BR142
32 06A1. EE. 01. EE0369
33 01B. ID. 07. JKT189 C
34 01B. TH. 99. OUR2478P
35 AD. AF. 07. 169H
36 cpX. CM. 00. 00CMNYU830
37 cpX. CM. 00. 00CMNYU926
38 BF1. UY. 03. UY03 3389
39 BF. BR. 04. 04BRJ179
40 BF. BR. 05. 05BRJ055
42 BF. LU. 03. LuBF 05 03
43 02G. SA. 03. J11223
44 BF. CL. 00. CH80
45 cpX. FR. 04. 04CFR AUK
46 BF. BR. 07. 07BR FP5625
47 BF. ES. 08. P1942
48 01B. MY. 07. 07MYKT021
49 cpX. GM. 03. N26677
51 01B. SG. 11. 11SG HM021
0. BE. 87. ANT70
0. CM. 91. MVP5180
0. CM. 96. 96CMA102
0. CM. 98. 98CMA104
0. CM. 99. 99CMA4122
0. FR. 92. VAU
0. SN. 99. 99SE MP1299
0. US. 97. 97US90692A
0. US. 99. 99US1WA
N. CM. 02. DJ00131
N. CM. 04. 04CM 1015\_04
N. CM. 06. U14842
N. CM. 95. YBF30
N. CM. 97. YBF106
N. FR. 11. N1 FR 2011
P. CM. 06. U1708
P. FR. 09. RBF168
CPZ. CD. 90. ANT
CPZ. CM. 05. SIVcpzMT145
CPZ. GA. 88. GAB1
CPZ. TZ. 00. TAN1
CPZ. US. 85. US Marilyn

Table with columns for protein sequence and residue positions. Headers include KQVILVAHVASGYIEAIVPAETGQETAYFLKLKLA. GRWPVKTIHTDNGSNFTGATVRAACWAGK. QEFGIYPNPQSQGVSMNKLKKIIGVQRDQAEHLKTAQVMAVFIHFKRKG. IGG. .... YSAGERIVDIIATDIQTKELQKQITKIQ 936. The table contains multiple rows of amino acid sequences and their corresponding positions.

	p31 Integrase end											
	Pol end†											
	NFRVYYDRSRNPLWKGPAKLLWKGEGAVVIQDNSDIKVVPRRKAIIIRDYQKQMGAGDDCVASRQDED*											
B.FR.83.HXB2												1003
A1.AU.03.P51044_Day0	X	I	X	X	T	X				G		1004
A1.ES.06.X2110	D	I								G		1004
A1.GE.99.99GEMZ011	D	I				N						1004
A1.IT.02.60000	D	I					X					1004
A1.KE.06.06KECst_001	D	I					V			G		1001
A1.RU.08.PokA1Ru	D	I				R				N		1009
A1.RW.93.93RW037A	K	D	V									1004
A1.SE.95.5E8538	D	I								G		1004
A1.TZ.01.A341	D	I				R				LK		1004
A1.UA.01.01UADN139	F	D	I							N		1004
A1.UG.99.99UGAG7072	D	I								G		1004
A1.ZA.04.04ZASK162B1	F	D	S	V		R				E		1003
A2.CD.97.97CDKT848	D	I								G		997
A2.CM.01.01CM_1445MV	D	I								V		1004
A2.CY.94.94CY017_41	D	I								G		1004
B.AR.04.04AR143170										E		1004
B.AU.04.P51038_Day174	X	N	D							E	X	1004
B.BO.99.B010122	D	I										1005
B.BR.06.06BR1119	D	I										1004
B.CA.07.502_1191_03	D	I								E		1004
B.CN.09.1121	D	I				H	R	X				1004
B.CO.01.PCM001	D	I										1004
B.CU.99.Cu19	D	I										1007
B.CY.09.CY266	N	D								E	E	1004
B.DE.86.D31	D	I								E		1004
B.DK.07.PMVL_011	D	V										1004
B.DO.05.05D0_160884	D	I								E	E	1006
B.EC.99.EC003	D	I								I		1008
B.ES.09.P2149_3	D	I										1004
B.FR.92.92FR_BX08	D	I								X		1003
B.GA.88.OYI_397	D	I										1004
B.GE.03.03GEMZ004	D	I										1004
B.HT.05.05HT_129389	D	I										1003
B.IW.x.11807	D	I										1004
B.JM.05.05JM_KJ108	D	I								V		1003
B.JP.05.05DR6538	D	I								V		1004
B.KR.04.04KMH5	D	I								V		1004
B.MI.99.mSTD101	N	D										1005
B.NL.00.671_00136	D	I										1014
B.PE.07.502_2649_wq8	N	K	D							E		1023
B.PY.03.03PY_PSP0115	D	I								E	X	1005
B.RU.04.04RU120005	D	I								X	TE	1004
B.TH.00.00TH_C3198	D	I										1004
B.TI.01.01TI_CRC50069	D	I								E		1003
B.TW.94.TWCYS_LM49	N	D										1004
B.UA.01.01UAKV167	D	I										1011
B.US.11.E538	N	D										1008
B.UY.02.02UY_TSU1290	D	I								E		1004
B.YE.02.02YE507	D	I										1005
B.ZA.03.03ZAPS045MB2	N	D										1004
C.AR.01.ARG4006	D	I				L				V	K	1000
C.BR.04.04BR013	D	I				L				V	K	1008
C.BW.00.00BW07621	D	I								I	K	1000
C.CN.98.YNRL9840	D	I								V	K	1000
C.CY.09.CY260	D	I									E	1007
C.ES.07.X218_2	D	I								V	X	1000
C.ES.02.02E_258	D	I									A	1006
C.GE.03.03GEMZ033	D	I								V		1000
C.IL.98.98IS002	D	I										1004
C.IN.03.D24	D	I									A	1008
C.KE.00.KER2010	D	I									K	1000
C.MM.99.mIDU101_3	D	I									K	1000
C.MW.93.93MW_965	D	I								V	K	1001
C.SN.90.90SE_364	D	I								V	K	996
C.SO.89.89SM_145	D	I									A	1011
C.TZ.02.C0178	D	I								V	PK	1000
C.US.90.90US_MSC3018	D	I									V	998
C.UY.01.TRA3011	D	I								L	K	999
C.YE.02.02YE511	D	I									V	998
C.ZA.05.05ZAPSK240B1	D	I									V	1000
C.ZM.02.02ZM108	N	D	I							LR	V	995
D.CD.83.ELI	D	I								K	V	1003
D.CM.01.01CM_0009BBY	N	D	I								V	1005
D.CY.06.CY163	D	I									V	1003
D.KE.97.ML415_2	D	I								L	E	1003
D.KR.04.04KBH8	D	I								S		1003
D.SN.90.SE365	D	I								E		1009
D.TD.99.MM011	D	I								E		1005
D.TZ.01.A280	D	I								H		1005
D.UG.99.99UG09958	D	I								E		1003
D.YE.02.02YE516	D	I									V	1005
D.ZA.90.R1	D	I									V	1003
F1.A0.06.A0_06_ANG125	F	D	V								V	1006
F1.AR.02.ARE933	D	I									E	1004
F1.BE.93.VI850	D	I									I	1005
F1.BR.07.07BR844	D	V										1010
F1.CY.08.CY222	D	I									I	1003
F1.ES.x.P1146	D	V										1002
F1.FI.93.FIN9363	D	V										1003
F1.FR.96.96FR_MP411	D	V										1006
F1.RO.96.BCI_R07	D	V									V	1004
F1.RU.08.08R_845	D	V								E	X	1004
F2.CM.97.CM53657	F	D	I							NE		1004
G.BE.96.DRCBL	D	I								NE		1000
G.CM.04.178_15	D	I								NE		1003
G.CN.08.GX_2084_08	D	I								NE		1008
G.CU.99.Cu74	F	D	I							NE		1000
G.ES.09.X2634_2	D	I								NE		1008
G.GH.03.03GH175G	F	D	I							NE	K	1004

	p31 Integrase end											
	Pol end†											
	NFRVYYRDSRNPLWKGPAKLLWKGEVAVIQDNSDIKVVPRRKAIIIRDYQKQMGAGDDCVASRQDED*											
B. FR. 83. HXB2												1003
G. KE. 93. HH8793 12 1	F	D	V			NE					G	1001
G. NG. 09. 09NG SC62											G	1003
G. PT. x. PT2695	F	D	I			NE					G	1003
G. SE. 93. SE6165 G6165						NE					G	1001
H. BE. 93. VI991	K										G	1002
H. BE. 93. VI997	K										G	1001
H. CF. 98. 056	K								E		G	1003
H. GB. 00. 00GBAC4001	K										G	1002
J. CD. 97. J 97DC KTB147											G	1001
J. CM. 04. 04CMU11421											G	1000
J. SE. 93. SE9280 7887									V	XX	G	1002
J. SE. 94. SE9173 7022											G	1002
K. CD. 97. 97ZR E0TB11											G	1002
K. CM. 96. 96CM MP535	K										G	1004
01 AE. AF. 07. 569M											G	1004
01 AE. CF. 98. 98CF11697											G	1001
01 AE. CN. 09. 1119									R		G	1004
01 AE. HK. 04. HK001											G	1001
01 AE. JP. x. DR0492											G	1004
01 AE. TH. 04. BKM											G	1003
01 AE. US. 08. 08UUS MSC1164											G	1004
01 AE. VN. 98. 98VNMND15											G	1003
02 AG. CM. 02. 02CM 0013BBY											G	1004
02 AG. CY. 09. CY256	H										G	1004
02 AG. ES. 06. P1261											G	1004
02 AG. FR. 91. DJ263											G	1004
02 AG. GH. 03. 03GH181AG											G	1004
02 AG. LR. x. POC44951											G	1004
02 AG. NG. 09. 09NG SC61											G	1004
02 AG. SE. 94. SE7812											G	1004
02 AG. SN. 98. 98SE MP1211	K										G	1003
02 AG. US. 06. 502 7696 FL01											G	1004
02 AG. UZ. 02. 02UZ0683											G	1004
03 AB. RU. 97. KAL153 2											G	1004
04 cpx. CY. 94. 94CY032 3											G	1003
05 DF. BE. x. VI1310											G	1004
05 cpx. AU. 96. BFP90											G	1006
07 BC. CN. 98. 98CNC009											G	1004
08 BC. CN. 06. nx2	DL	L	*								G	998
09 cpx. GH. 96. 96GH2911											G	1003
10 CD. TZ. 96. 96TZ BF061											G	1003
11 cpx. CM. 95. 95CM 1816	K										G	1002
12 BF. AR. 99. ARMA159											G	1004
13 cpx. CM. 96. 96CM 1849											G	1011
14 BG. ES. 05. X1870											G	1003
15 01B. TH. 99. 99TH MU2079											G	1002
16 A2D. KR. 97. 97KR004											G	1004
17 BF. AR. 99. ARMA038											G	1004
18 cpx. CU. 99. CU176											G	1002
19 cpx. CU. 99. CU17											G	1003
20 BG. CU. 99. Cu103											G	1000
21 A2D. KE. 99. KER2003											G	1003
22 01A1. CM. 01. 01CM 0001BBY											G	1004
23 BG. CU. 03. CB118											G	1000
24 BG. ES. 08. X2456 2											G	1000
25 cpx. CM. 02. 1918LE											G	1003
26 AU. CD. 02. 02CD MBT047											G	1002
27 cpx. FR. 04. 04CD FR K25											G	1002
28 BF. BR. 99. BREPM12609											G	1007
29 BF. BR. 01. BREPM16704											G	1004
31 BC. BR. 04. 04BR142											G	1010
32 06A1. EE. 01. EE0369											G	1004
33 01B. ID. 07. JKT189 C											G	1004
34 01B. TH. 99. OUR2478P											G	1004
35 AD. AF. 07. 169H											G	1003
36 cpx. CM. 00. 00CMNYU830											G	1004
37 cpx. CM. 00. 00CMNYU926											G	1001
38 BF1. UY. 03. UY03 3389	FS										G	1008
39 BF. BR. 04. 04BRRJ179											G	1007
40 BF. BR. 05. 05BRRJ055											G	1004
42 BF. LU. 03. LuBF 05 03											G	1008
43 02G. SA. 03. J11223											G	1003
44 BF. CL. 00. CH80											G	1004
45 cpx. FR. 04. 04FR AUK											G	1002
46 BF. BR. 07. 07BR FPS625											G	1004
47 BF. ES. 08. P1942											G	1003
48 01B. MY. 07. 07MYKT021											G	1004
49 cpx. GM. 03. N26677											G	1001
51 01B. SG. 11. 11SG HM021											G	1004
0. BE. 87. ANT70	K										G	1000
0. CM. 91. MYP5180											G	1000
0. CM. 96. 96CMA102											G	1002
0. CM. 98. 98CMA104											G	1000
0. CM. 99. 99CMU4122	K	Q									G	1000
0. FR. 92. VAU											G	1000
0. SN. 99. 99SE MP1299	K	Q									G	1001
0. US. 97. 97US0692A											G	1000
0. US. 99. 99USTWL A											G	1003
N. CM. 02. DJ00131											G	1009
N. CM. 04. 04CM 1015_04											G	1011
N. CM. 06. U14842											G	1012
N. CM. 95. YBF30											G	1011
N. CM. 97. YBF106											G	1011
N. FR. 11. N1 FR 2011											G	1011
P. CM. 06. U14788											G	1001
P. FR. 09. RBF168											G	1000
CPZ. CD. 98. ANT											G	1004
CPZ. CM. 05. SIVcpzMT145											G	1003
CPZ. GA. 88. GAB1											G	1002
CPZ. TZ. 00. TAN1											G	1000
CPZ. US. 85. US Marilyn											G	1006

Vif start

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B.DE.86.D31-----I-N-I-K-K-TN-EK-K-TN-Q-H-A-GS-T-E-N-I-R-S-R-159
B.DK.07.PMVL_011-----I-N-I-KK-V-I-K-EKM-V-H-A-GS-T-E-N-I-R-S-159
B.DO.05.05D0_160884-----K-I-K-I-D-KV-EK-K-I-Q-H-A-TRT-R-D-H-I-VR-S-159
B.E9.09.E903-----N-I-K-K-S-K-N-VX-EK-K-I-E-N-N-N-NH-K-Q-I-VR-159
B.ES.09.P2149_3-----N-I-K-K-EK-V-TN-Y-K-A-E-N-N-NH-E-H-E-T-159
B.FR.92.92FR BX08-----N-I-K-K-TN-T-V-E-A-G-T-E-N-I-R-R-S-X-159
B.GA.88.OYI_397-----A-N-I-K-A-V-TN-T-K-VI-Q-E-GI-E-N-I-VR-S-T-159
B.GE.03.03GEMZ004-----A-N-I-KK-TK-TG-E-E-K-K-E-G-G-Q-E-VR-159
B.HT.05.05HT_129389-----N-I-R-K-T-K-K-M-E-E-K-K-RK-DO-H-EA-Q-I-VR-159
B.IW.x.11887-----N-Y-I-R-TER-V-T-K-DK-K-E-I-D-K-H-E-EA-HTI-R-Q-T-159
B.JM.05.05JM.KJ108-----I-K-KE-V-T-K-K-E-I-D-D-K-H-H-I-VR-Q-X-159
B.JP.05.DR6538-----I-K-KE-S-K-D-T-K-E-E-I-D-D-K-H-H-I-VR-Q-159
B.KR.04.04KMH5-----Y-R-K-S-K-D-T-K-E-K-T-G-Q-V-ONL-D-I-R-S-D-159
B.MI.09.mSTD101-----S-N-K-Q-T-I-I-P-I-V-ORE-NV-V-E-N-XR-S-159
B.ML.00.6711_01736-----S-I-K-K-M-K-XN-X-I-I-P-I-V-ORE-NV-V-E-N-XR-S-159
B.PE.07.502_2649_w08-----K-N-I-I-R-KK-V-TN-K-X-K-K-Q-H-RG-N-D-159
B.PY.03.03PY.PSP0115-----A-HI-R-K-I-K-D-S-K-K-T-N-N-G-R-E-Q-I-R-N-P-S-159
B.RU.04.04RU128005-----N-I-K-K-L-K-T-T-K-K-VI-E-K-I-D-G-S-I-RL-S-T-S-159
B.TH.00.00TH.C3198-----A-T-I-K-K-L-K-T-T-T-K-K-K-K-R-O-O-I-VR-159
B.TI.01.01TIT.CRC50069-----N-I-K-K-L-K-T-T-T-K-K-K-K-R-O-O-I-VR-159
B.TW.94.TWCYS.LM49-----A-T-I-K-K-L-K-T-T-T-K-K-K-K-R-O-O-I-VR-159
B.UA.01.01UAKV167-----N-I-KD-C-TN-T-O-M-EK-G-V-RG-N-N-R-R-D-159
B.US.11.E538-----A-T-I-K-K-L-K-T-T-T-K-K-K-K-R-O-O-I-VR-159
B.UY.02.02UY.TSU1290-----L-A-N-I-K-Y-F-R-KV-I-Q-H-LXK-Q-N-H-159
B.YE.02.02YEO07-----L-K-N-I-K-Y-R-K-R-K-XQ-N-H-LR-D-TH-A-159
B.ZA.03.03ZAPS045MB2-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.AR.01.ARG4006-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.BR.04.04BR013-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.BW.00.00BW07621-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.CN.98.YNRL9840-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.CY.09.CY266-----S-L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.E9.07.X2118_2-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.EI.02.02E1_258-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.GE.03.03GEMZ033-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.IL.98.98IS002-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.IN.03.D24-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.KE.09.KER2010-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.MM.90.mIDU101_3-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.MW.93.93MW.965-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.SN.90.90SE.364-----GL-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.SO.89.89SM.145-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.T2.02.C0178-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.US.98.98US.MSC3018-----AL-I-K-N-Y-I-R-R-S-F-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.UY.01.TRA3011-----GL-I-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.YE.02.02YE511-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.ZA.05.05ZAPSK240B1-----L-K-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
C.ZM.02.02ZM108-----L-K-A-N-I-K-R-N-L-D-R-KV-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.03.83.ELI-----K-N-Y-H-K-A-Q-K-NR-K-K-E-K-E-R-G-M-E-I-D-159
D.CM.01.01CM.0009BBY-----V-N-Y-H-K-A-Q-K-NR-K-K-E-K-E-R-G-M-E-I-D-159
D.CY.06.CY163-----D-KE.97.ML415_2-----N-Y-I-K-Q-V-D-N-E-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.KR.04.04KBH8-----N-Y-I-K-Q-V-D-N-E-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.SN.90.SE365-----N-Y-I-K-Q-V-D-N-E-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.TD.99.MH011-----V-N-Y-KE-Q-C-K-D-K-E-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.TZ.01.A289-----N-Y-I-KE-Q-C-K-D-K-E-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.UG.99.99UGK09958-----K-I-K-R-DE-L-DC-N-K-E-VR-E-K-K-VR-A-K-Q-H-LR-D-TH-A-159
D.YE.02.02YE516-----N-I-XE-K-D-K-E-K-VI-N-K-QR-S-I-E-I-LR-D-159
D.ZA.90.R1-----N-Y-H-K-K-D-K-EE-VK-V-K-P-R-I-G-T-159
F1.A0.06.06.A0.06.ANG125-----N-Y-N-K-E-F-RN-E-E-K-K-I-OGK-R-I-GT-I-S-E-159
F1.AR.02.ARE933-----N-Y-H-K-K-KE-F-R-V-E-E-K-K-I-XGN-R-I-GT-I-S-E-159
F1.BE.93.VI850-----L-N-Y-I-K-K-S-F-R-V-E-E-K-K-I-OGK-R-I-GT-I-S-E-159
F1.BR.07.07BR844-----N-Y-I-K-R-V-F-R-V-E-N-E-E-K-K-I-OGK-R-I-GT-I-S-E-159
F1.CY.08.CY222-----V-S-Y-HI-K-KN-F-R-K-I-I-I-I-V-L-E-A-OG-N-I-G-I-159
F1.E5.x.P1146-----T-V-S-Y-HI-K-KR-C-F-RN-V-K-K-KI-V-E-OGK-I-D-159
F1.FI.93.FIN9363-----N-Y-H-K-KN-F-R-V-E-E-K-K-I-OGK-R-I-GT-I-S-E-159
F1.FR.96.96FR.MP411-----S-Y-H-K-KN-FO-R-K-E-E-K-K-V-OG-R-I-D-159
F1.R0.96.BC1.R07-----N-Y-HI-K-KK-S-F-R-V-E-E-K-K-V-OG-R-I-D-159
F1.RU.88.088_845-----N-Y-I-K-K-V-K-F-R-V-E-E-K-K-I-V-P-E-OG-N-I-G-159
F2.CM.97.CM53657-----N-Y-RR-K-F-R-V-K-D-SK-VS-O-R-G-159
G.BE.96.DRCBL-----N-I-K-K-R-KV-K-VR-DKE-H-OG-D-H-H-N-E-159
G.CM.04.178_15-----N-X-K-KD-V-R-V-K-K-VR-K-H-LR-D-H-Y-G-159
G.CN.08.GX.2084_08-----N-K-K-K-R-V-V-K-IVR-K-Q-H-LR-D-H-159
G.CU.99.CU74-----L-N-K-KD-W-R-K-IVR-K-H-KOR-K-I-D-159
G.E9.09.X2634_2-----N-Y-I-K-K-F-R-V-L-K-VR-H-OG-N-I-G-159
G.GH.03.03GH175G-----N-I-K-K-R-R-KV-L-K-VR-H-OG-N-I-G-159

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B. FR. 83. HXB2
G. KE. 93. HH8793 12 1
G. NG. 09. 09NG SC62
G. PT. x. PT2695
G. SE. 93. SE6165 G6165
H. BE. 93. VI991
H. BE. 93. VI997
H. CF. 90. 056
H. GB. 00. 00GBCA4001
J. CD. 97. J 97DC KTB147
J. CM. 04. 04CMU1421
J. SE. 93. SE9280 7887
J. SE. 94. SE9173 7022
K. CD. 97. 97ZR E0TB11
K. CM. 96. 96CM MP535
01 AE. AF. 07. 569M
01 AE. CF. 90. 90CF11697
01 AE. CN. 09. 1119
01 AE. HK. 04. HK001
01 AE. JP. x. DR0492
01 AE. TH. 04. BKM
01 AE. US. 00. 00U MSC1164
01 AG. VN. 98. 98VND15
02 AG. CM. 02. 02CM 0013BBY
02 AG. CY. 09. CY256
02 AG. ES. 06. P1261
02 AG. FR. 91. D3263
02 AG. GH. 03. 03GH181AG
02 AG. LR. x. POC44951
02 AG. NG. 09. 09NG SC61
02 AG. SE. 94. SE7812
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02 AG. UZ. 02. 02UZ0683
03 AB. RU. 97. KAL153 2
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05 cpX. AU. 96. BF90
07 BC. CN. 98. CN009
08 BC. CN. 06. nx2
09 cpX. GH. 96. 96GH2911
10 CD. TZ. 96. 96TZ BF061
11 cpX. CM. 95. 95CM 1816
12 BF. AR. 99. ARMA159
13 cpX. CM. 96. 96CM 1849
14 BG. ES. 05. X1870
15 01B. TH. 99. 99TH MU2079
16 A2D. KR. 97. 97KR804
17 DF. AR. 99. ARMA038
18 cpX. CU. 99. CU176
19 cpX. CU. 99. CU17
20 BG. CU. 99. CU103
21 A2D. KE. 99. KER2003
22 01A1. CM. 01. 01CM 0001BBY
23 BG. CU. 03. CU176
24 BG. ES. 08. X2456 2
25 cpX. CM. 02. 1918LE
26 AU. CD. 02. 02CD MBT047
27 cpX. FR. 04. 04CFR KZ2
28 BF. BR. 07. 07BR FP5625
29 BF. BR. 01. BREPM16704
31 BC. BR. 04. 04BR142
32 06A1. EE. 01. EE0369
33 01B. ID. 07. JKT189 C
34 01B. TH. 99. 09UR2478P
35 AD. AF. 07. 169H
36 cpX. CM. 00. 00CMNYU830
37 cpX. CM. 00. 00CMNYU926
38 BF1. UY. 03. UY03 3389
39 BF. BR. 04. 04BR RJ179
40 BF. BR. 05. 05BR J05
42 BF. LU. 03. LUBF 05 03
43 02G. SA. 03. J11223
44 BF. CL. 00. CH80
45 cpX. FR. 04. 04CFR AUK
46 BF. BR. 07. 07BR FP5625
47 BF. ES. 08. P1942
48 01B. MY. 07. 07MYKT021
49 cpX. GM. 03. N26677
51 01B. SG. 11. 11SG HM021
O. BE. 87. ANI70
O. CM. 91. MPV5180
O. CM. 96. 96CMA2
O. CM. 98. 98CMA104
O. CM. 99. 99CMA4122
O. FR. 92. VAVU
O. SN. 99. 99SE MP1299
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O. US. 99. 99US1WL
N. CM. 02. DJ00131
N. CM. 04. 04CM 1015 04
N. CM. 06. U14842
N. CM. 95. YBF30
N. CM. 97. YBF106
N. FR. 11. N1 FR 2011
P. CM. 06. U1708
P. FR. 09. RBF168
CPZ. CD. 90. AN7
CPZ. CM. 05. SIVcpzMT145
CPZ. GA. 88. GAB1
CPZ. TZ. 00. TAN1
CPZ. US. 85. US Marilyn

Vif start

Table of amino acid sequences for HIV-1 proteins. Each row represents a specific sequence identifier and its corresponding amino acid sequence. The sequences are aligned at the start of the Vif protein. The table includes identifiers from the B. FR. 83. HXB2 strain to various other HIV-1 strains and specific HIV-1 sequences.











Table with columns: Tat start, C-rich region, nuclear localization, exon 1 end, exon 2 start, Tat end. Contains a list of HIV-1 protein sequences and their amino acid compositions.

Rev start	exon 1 end	exon 2 start	NLS	Leu-rich effector domain	
B.FR.83.HXB2	.....D	.....L	.....K	.....S	.....Q
A1.AU.03.P51844_Day0	.....D	.....L	.....K	.....S	.....Q
A1.ES.06.X2110	.....D	.....L	.....K	.....S	.....Q
A1.GE.99.99GEMZ011	.....D	.....L	.....K	.....S	.....Q
A1.IT.02.68080	.....D	.....L	.....K	.....S	.....Q
A1.KE.06.96KECst_001	.....D	.....L	.....K	.....S	.....Q
A1.RU.08.POKAIRU	.....D	.....L	.....K	.....S	.....Q
A1.RW.93.93RW037A	.....D	.....L	.....K	.....S	.....Q
A1.SE.95.5E8538	.....D	.....L	.....K	.....S	.....Q
A1.TZ.01.A341	.....D	.....L	.....K	.....S	.....Q
A1.UA.01.01UADN139	.....D	.....L	.....K	.....S	.....Q
A1.UG.99.99UGAG7872	.....D	.....L	.....K	.....S	.....Q
A1.ZA.04.04ZASK162B1	.....D	.....L	.....K	.....S	.....Q
A2.CD.97.97CDKT848	.....D	.....L	.....K	.....S	.....Q
A2.CM.01.01CM.1445MV	.....D	.....L	.....K	.....S	.....Q
A2.CY.94.94CY017_41	.....D	.....L	.....K	.....S	.....Q
B.AR.04.04AR143170	.....D	.....L	.....K	.....S	.....Q
B.AU.04.P51838_Day174	.....D	.....L	.....K	.....S	.....Q
B.BO.99.B018122	.....D	.....L	.....K	.....S	.....Q
B.BR.06.06BR11119	.....D	.....L	.....K	.....S	.....Q
B.CA.07.502.1191_03	.....D	.....L	.....K	.....S	.....Q
B.CN.09.1121	.....D	.....L	.....K	.....S	.....Q
B.CO.01.PCM001	.....D	.....L	.....K	.....S	.....Q
B.CU.99.CU19	.....D	.....L	.....K	.....S	.....Q
B.CY.09.CY266	.....D	.....L	.....K	.....S	.....Q
B.DE.86.D31	.....D	.....L	.....K	.....S	.....Q
B.DK.07.PMVL_011	.....D	.....L	.....K	.....S	.....Q
B.DO.05.05DO.160884	.....D	.....L	.....K	.....S	.....Q
B.EI.09.E0803	.....D	.....L	.....K	.....S	.....Q
B.ES.09.P2149_3	.....D	.....L	.....K	.....S	.....Q
B.FR.92.92FR.BX08	.....D	.....L	.....K	.....S	.....Q
B.GA.88.OYI.397	.....D	.....L	.....K	.....S	.....Q
B.GE.03.03GEMZ004	.....D	.....L	.....K	.....S	.....Q
B.HT.05.05HT.129389	.....D	.....L	.....K	.....S	.....Q
B.IL.X.11887	.....D	.....L	.....K	.....S	.....Q
B.JM.05.05JM.KJ108	.....D	.....L	.....K	.....S	.....Q
B.JP.05.05DR6538	.....D	.....L	.....K	.....S	.....Q
B.KR.04.04KMH5	.....D	.....L	.....K	.....S	.....Q
B.MM.09.mSTD101	.....D	.....L	.....K	.....S	.....Q
B.NL.00.671.69136	.....D	.....L	.....K	.....S	.....Q
B.PE.07.502.2649_wq8	.....D	.....L	.....K	.....S	.....Q
B.PY.03.03PY.PSP0115	.....D	.....L	.....K	.....S	.....Q
B.RU.04.04RU128005	.....D	.....L	.....K	.....S	.....Q
B.TH.00.00TH.C3198	.....D	.....L	.....K	.....S	.....Q
B.TI.01.01TI.CRC50069	.....D	.....L	.....K	.....S	.....Q
B.TW.94.TWCYS.LM49	.....D	.....L	.....K	.....S	.....Q
B.UA.01.01UAKV167	.....D	.....L	.....K	.....S	.....Q
B.US.11.E538	.....D	.....L	.....K	.....S	.....Q
B.UY.02.02UY.TSU1290	.....D	.....L	.....K	.....S	.....Q
B.YE.02.02YE	.....D	.....L	.....K	.....S	.....Q
B.ZA.03.03ZAP5045MB2	.....D	.....L	.....K	.....S	.....Q
C.AR.01.ARG4806	.....D	.....L	.....K	.....S	.....Q
C.BR.04.04BR813	.....D	.....L	.....K	.....S	.....Q
C.BW.00.00BW07621	.....D	.....L	.....K	.....S	.....Q
C.CN.98.YNRL9840	.....D	.....L	.....K	.....S	.....Q
C.CY.09.CY266	.....D	.....L	.....K	.....S	.....Q
C.EI.07.X2118_2	.....D	.....L	.....K	.....S	.....Q
C.ET.02.02ET.258	.....D	.....L	.....K	.....S	.....Q
C.GE.03.03GEMZ033	.....D	.....L	.....K	.....S	.....Q
C.IL.98.98IL5002	.....D	.....L	.....K	.....S	.....Q
C.IN.03.D24	.....D	.....L	.....K	.....S	.....Q
C.KE.00.KER2010	.....D	.....L	.....K	.....S	.....Q
C.MM.99.mIDU101_3	.....D	.....L	.....K	.....S	.....Q
C.MW.93.93MW.965	.....D	.....L	.....K	.....S	.....Q
C.SN.90.90SE.364	.....D	.....L	.....K	.....S	.....Q
C.SO.89.89SM.145	.....D	.....L	.....K	.....S	.....Q
C.TZ.02.C0178	.....D	.....L	.....K	.....S	.....Q
C.US.98.98US.MSC3018	.....D	.....L	.....K	.....S	.....Q
C.UY.01.TRA3011	.....D	.....L	.....K	.....S	.....Q
C.YE.02.02YE511	.....D	.....L	.....K	.....S	.....Q
C.ZA.05.05ZAPSK240B1	.....D	.....L	.....K	.....S	.....Q
C.ZM.02.02ZM108	.....D	.....L	.....K	.....S	.....Q
D.CD.83.ELI	.....D	.....L	.....K	.....S	.....Q
D.CM.01.01CM.0009BBY	.....D	.....L	.....K	.....S	.....Q
D.CY.06.CY163	.....D	.....L	.....K	.....S	.....Q
D.KE.97.ML415_2	.....D	.....L	.....K	.....S	.....Q
D.KR.04.04KR88	.....D	.....L	.....K	.....S	.....Q
D.SN.90.SE365	.....D	.....L	.....K	.....S	.....Q
D.TD.99.MN011	.....D	.....L	.....K	.....S	.....Q
D.TZ.01.A289	.....D	.....L	.....K	.....S	.....Q
D.UG.99.99UGK09958	.....D	.....L	.....K	.....S	.....Q
D.YE.02.02YE516	.....D	.....L	.....K	.....S	.....Q
D.ZA.90.R1	.....D	.....L	.....K	.....S	.....Q
F1.A0.06.A0.06.ANG125	.....D	.....L	.....K	.....S	.....Q
F1.AR.02.ARE933	.....D	.....L	.....K	.....S	.....Q
F1.BE.93.VI850	.....D	.....L	.....K	.....S	.....Q
F1.BR.07.07BR844	.....D	.....L	.....K	.....S	.....Q
F1.CY.08.CY222	.....D	.....L	.....K	.....S	.....Q
F1.ES.x.P1146	.....D	.....L	.....K	.....S	.....Q
F1.FI.93.FIN9363	.....D	.....L	.....K	.....S	.....Q
F1.FR.96.96FR.MP411	.....D	.....L	.....K	.....S	.....Q
F1.FR.96.96FR.R07	.....D	.....L	.....K	.....S	.....Q
F1.RU.08.08R.845	.....D	.....L	.....K	.....S	.....Q
F2.CM.97.CM53657	.....D	.....L	.....K	.....S	.....Q
G.BE.96.DRCBL	.....D	.....L	.....K	.....S	.....Q
G.CM.04.178.15	.....D	.....L	.....K	.....S	.....Q
G.CN.08.GX.2084_08	.....D	.....L	.....K	.....S	.....Q
G.CU.99.CU74	.....D	.....L	.....K	.....S	.....Q
G.EG.09.X2634_2	.....D	.....L	.....K	.....S	.....Q
G.GH.03.03GH175G	.....D	.....L	.....K	.....S	.....Q



Rev start	exon 1 end	exon 2 start	NLS	Leu-rich effector domain
B.FR.83.HXB2	...	...	...	...
G.KE.93.HH8793.12.1	...	...	...	...
G.NG.09.09NG.5C62	...	...	...	...
G.PT.x.PT2695	...	...	...	...
G.SE.93.SE6165.66165	...	...	...	...
H.BE.93.VI991	...	...	...	...
H.BE.93.VI997	...	...	...	...
H.CF.98.856	...	...	...	...
H.GB.00.00GBCA4001	...	...	...	...
J.CD.97.J.97DC.KTB147	...	...	...	...
J.CM.04.04CMU11421	...	...	...	...
J.SE.93.SE9280.7887	...	...	...	...
J.SE.94.SE9173.7822	...	...	...	...
K.CD.97.97ZR.E0TB11	...	...	...	...
K.CM.96.96CM.MP535	...	...	...	...
01.AE.AF.07.569M	...	...	...	...
01.AE.CF.98.98CF11697	...	...	...	...
01.AE.CN.89.1119	...	...	...	...
01.AE.HK.04.HK001	...	...	...	...
01.AE.JP.x.DR0492	...	...	...	...
01.AE.TH.04.BKM	...	...	...	...
01.AE.US.00.00US.MSC1164	...	...	...	...
01.AE.VN.98.98VN.MND15	...	...	...	...
02.AG.CM.02.02CM.0013BBY	...	...	...	...
02.AG.CY.09.CY256	...	...	...	...
02.AG.ES.06.P1261	...	...	...	...
02.AG.FR.91.DJ263	...	...	...	...
02.AG.GH.03.03GH.181AG	...	...	...	...
02.AG.LR.x.POC44951	...	...	...	...
02.AG.NG.09.09NG.5C61	...	...	...	...
02.AG.SE.94.SE7812	...	...	...	...
02.AG.SN.98.98SE.MP1211	...	...	...	...
02.AG.US.06.06US.FL01	...	...	...	...
02.AG.UZ.02.02UZ.0683	...	...	...	...
03.AB.RU.97.KAL153.2	...	...	...	...
04.cpx.CY.94.94CY.032.3	...	...	...	...
05.DF.BE.x.VI1310	...	...	...	...
05.cpx.AU.96.BF90	...	...	...	...
07.BC.CN.98.98CN.009	...	...	...	...
08.BC.CN.06.nx2	...	...	...	...
09.cpx.GH.96.96GH.2911	...	...	...	...
10.CD.TZ.96.96TZ.BF061	...	...	...	...
11.cpx.CM.95.95CM.1816	...	...	...	...
12.BF.AR.99.99BF.159	...	...	...	...
13.cpx.CM.96.96CM.1849	...	...	...	...
14.BG.ES.05.X1870	...	...	...	...
15.01B.TH.99.99TH.MU2079	...	...	...	...
16.A2D.KR.97.97KR.R0804	...	...	...	...
17.BF.AR.99.99BF.159	...	...	...	...
18.cpx.CU.99.CU76	...	...	...	...
19.cpx.CU.99.CU7	...	...	...	...
20.BG.CU.99.CU103	...	...	...	...
21.A2D.KE.99.99KER2003	...	...	...	...
22.01A1.CM.01.01CM.0001BBY	...	...	...	...
23.BG.CU.03.03BG.119	...	...	...	...
24.BG.ES.08.X2456.2	...	...	...	...
25.cpx.CM.02.1918LE	...	...	...	...
26.AU.CD.02.02CD.MBTB047	...	...	...	...
27.cpx.FR.04.04CFR.KZ5	...	...	...	...
28.BF.BR.99.99BF.159	...	...	...	...
29.BF.BR.01.01BF.16704	...	...	...	...
31.BC.BR.04.04BR.142	...	...	...	...
32.06A1.EE.01.EE.0369	...	...	...	...
33.01B.ID.07.07JKT189.C	...	...	...	...
34.01B.TH.99.09UR.2478P	...	...	...	...
35.AD.AF.07.169H	...	...	...	...
36.cpx.CM.00.00CMNYU830	...	...	...	...
37.cpx.CM.00.00CMNYU926	...	...	...	...
38.BF1.UY.03.03UY.3389	...	...	...	...
39.BF.BR.04.04BR.RJ179	...	...	...	...
40.BF.BR.05.05BR.RJ305	...	...	...	...
42.BF.LU.03.03BF.05.03	...	...	...	...
43.02G.SA.03.03J11223	...	...	...	...
44.BF.CL.00.CH80	...	...	...	...
45.cpx.FR.04.04CFR.AUK	...	...	...	...
46.BF.BR.07.07BR.FP5625	...	...	...	...
47.BF.ES.08.P1942	...	...	...	...
48.01B.MY.07.07MYKT021	...	...	...	...
49.cpx.GM.03.03N26677	...	...	...	...
51.01B.SG.11.11SG.HM021	...	...	...	...
0.BE.87.ANT70	...	...	...	...
0.CM.91.MVP5180	...	...	...	...
0.CM.96.96CM.012	...	...	...	...
0.CM.98.98CM.1804	...	...	...	...
0.CM.99.99CMU4122	...	...	...	...
0.FR.92.VAU	...	...	...	...
0.SN.99.99SE.MP1299	...	...	...	...
1.US.97.97US.98692A	...	...	...	...
0.US.99.99US.101	...	...	...	...
N.CM.02.DJ00131	...	...	...	...
N.CM.04.04CM.1615.04	...	...	...	...
N.CM.06.U14842	...	...	...	...
N.CM.95.YBF30	...	...	...	...
N.CM.97.YBF106	...	...	...	...
N.FR.11.N1.FR.2011	...	...	...	...
P.CM.06.U14788	...	...	...	...
P.FR.09.RBF16L	...	...	...	...
CPZ.CD.90.ANT	...	...	...	...
CPZ.CM.05.SIVcpzMT145	...	...	...	...
CPZ.GA.88.GAB1	...	...	...	...
CPZ.TZ.00.TAN1	...	...	...	...
CPZ.US.85.US.Marilyn	...	...	...	...







Table with columns: Vpu start, transmembrane domain, cytosolic domain (phos phos, alpha-helix), alpha-helix, and Vpu end. It lists various HIV-1 proteins and their amino acid sequences and structural domains.



Table with columns: Env start, signal peptide, gp120 start, glycosylation NVT, CD4 binding, glycosylation NDT. Rows include sequences for HIV-1/SIVcpz proteins such as B.FR.83.HXB2, G.KE.93.HH8793.12.1, G.NG.09.09NG.SC62, etc.





Table with columns for glycosylation NCS, glycosylation NSS, glycosylation NDT, glycosylation NTS, glycosylation NVS, glycosylation NGT, and glycosylation NKT. Rows list protein sequences and their corresponding amino acid positions (e.g., B. FR. 83. HXB2, G. KE. 93. HH8793 12 1, etc.).





glycosylation NST  
glycosylation NST

V4

glycosylation NNT

CD4 binding

glycosylation NIT

CD4 binding

glycosylation NES

CD4 binding

fusion peptide

gp120 end gp41 start

Table with columns for protein identifiers (e.g., B.FR.83.HXB2, A1.AU.03.P51044\_Day0) and amino acid sequences for various HIV-1 protein regions (glycosylation NST, glycosylation NNT, CD4 binding, glycosylation NIT, glycosylation NES, fusion peptide).



HIV-1 Proteins

Table with columns for protein names (e.g., B.FR.83.HXB2), fusion peptide, immunodominant region, glycosylation NAS, glycosylation NHT, glycosylation NYT, and a numerical index (660-659).









HIV-1 Proteins

	glycosylation NAT	cytoplasmic tail end	gp41 end	Env end
B.FR.83.HXB2	.WNLLQ...YW.SQ..ELKNSAVS.LLNATAI(A)VAEGTDRVIEVVOGA(C)AIRHIPRRIRQGL.ERI.LL*			
A1.AU.03.P51044_Day0	...V...I...N...YDTI...GW...IG...I...LN...A...			
A1.ES.06.X2110	.G.I...IR...I...I...DT...VI...GW...I...IG...IG...LNV...S...			
A1.GE.99.99GEMZ011	.G.G...G...S...IN...IDTI...GW...IGR...F...N...A...KA...Q...			
A1.TI.02.60000	...V...GR...I...I...DTI...GW...IG...RV...L...F...A...			
A1.KE.06.06KECst_001	...I...GR...I...IN...VDTI...V...GW...A...I...RIG...L...F...S...			
A1.RU.08.PokaiRu	.G.G...G...I...IN...IDTI...V...GW...I...IG...RF...N...A...Q...			
A1.RW.93.93RW037A	.G.T.L...G...G...N...FDTI...I...GW...I...LG...RI...L...F...A...			
A1.SE.95.5E8538	...V...IR...I...I...DTI...GW...LG...RL...L...V...F...A...			
A1.TZ.01.A341	...L...GR...I...I...VDTI...V...GW...IGLRIG...LL...F...A...			
A1.UA.01.01UADN139	.G.G...G...G...IN...DTI...GW...IG...RF...CN...A...KA...Q...			
A1.UG.99.99UGAG7072	.G.I...G...G...IN...DTI...L...T...H...G...A...A...A...Q...			
A1.ZA.04.04ZASK16281	...L...I...R...I...DTI...T...GW...G...IG...RIV...L...A...A...Q...			
A2.CD.97.97CDKT848	...V...G...T...IR...DTI...V...W...IG...R...N...F...A...			
A2.CM.01.01CM.1445MV	...L...GR...I...N...VDI...VT...IG...RI...LN...T...F...A...			
A2.CY.94.94CY017_41	...L...GR...I...I...FDTI...V...W...IG...R...F...LN...F...A...			
B.AR.04.04AR143170	...I...RX...H...H...T...X...RLG...LN...A...Q...			
B.AU.04.P51038_Day174	.X.XX...R...XX...X...I...XX...A...R...X...CN...L...XX...			
B.BO.99.B010122	...G...G...I...R...Y...L...T...A...			
B.BR.06.06BR1119	...I...I...K...V...FV...N...S...			
B.CA.07.502_1191_03	...G...G...F...L...R...G...V...F...S...			
B.CN.09.1121	...S...K...F...TI...IL...IA...RFG...V...A...KA...W...			
B.CO.01.PCM001	...S...V...I...G...R...NV...A...A...			
B.CU.99.Cu19	...S...F...I...RGF...F...A...			
B.CY.09.CY266	...S...S...I...G...LDIL...R...F...L...A...Q...			
B.DE.86.D31	...S...K...K...V...I...ALLRTF...L...V...A...			
B.DK.07.PMVL_011	...S...K...R...T...I...G...RVIV...FL...F...A...			
B.DO.05.05D0_160884	...H...H...I...R...G...L...F...A...			
B.EC.09.EC003	...H...H...I...R...G...L...F...A...			
B.ES.09.P2149_3	...H...H...I...R...G...L...F...A...			
B.FR.92.92FR.BX08	...H...H...I...R...G...L...F...A...			
B.GA.88.OYI_397	...H...H...I...R...G...L...F...A...			
B.GE.03.03GEMZ004	...H...H...I...R...G...L...F...A...			
B.HT.05.05HT_129389	...H...H...I...R...G...L...F...A...			
B.IW.x.11887	...H...H...I...R...G...L...F...A...			
B.JM.05.05JM.KJ108	...H...H...I...R...G...L...F...A...			
B.JP.05.DR6538	...H...H...I...R...G...L...F...A...			
B.KR.04.04KMH5	...H...H...I...R...G...L...F...A...			
B.MM.99.mSTD101	...H...H...I...R...G...L...F...A...			
B.NL.00.671_001F36	...H...H...I...R...G...L...F...A...			
B.PE.07.502_2649_w08	...H...H...I...R...G...L...F...A...			
B.PY.03.03PY.PSP0115	...H...H...I...R...G...L...F...A...			
B.RU.04.04RU128005	...H...H...I...R...G...L...F...A...			
B.TH.00.00TH.C3198	...H...H...I...R...G...L...F...A...			
B.TT.01.01TT.GC50069	...H...H...I...R...G...L...F...A...			
B.TW.94.TWCYS.LM49	...H...H...I...R...G...L...F...A...			
B.UA.01.01UAKV167	...H...H...I...R...G...L...F...A...			
B.US.11.E538	...H...H...I...R...G...L...F...A...			
B.UY.02.02UY.TSU1290	...H...H...I...R...G...L...F...A...			
B.YE.02.02YE507	...H...H...I...R...G...L...F...A...			
B.ZA.03.03ZAP5045MB2	...H...H...I...R...G...L...F...A...			
C.AR.01.ARG4006	GS.V...GL...K...I...DTI...I...I...RIWEI...CN...F...AA...Q...			
C.BR.04.04BR013	GS.V...GL...K...I...DTI...I...LI...IW...LS...H...F...AA...Q...			
C.BW.00.00BW07621	GI.V...GL...K...I...FDTI...I...AI...RI...CN...F...AA...Q...			
C.CN.98.YNRL9840	GS.V...GL...K...I...DTI...I...KL...YSI...F...LA...Q...			
C.CY.09.CY266	S.VVL...L...K...VS...DDT...TT...A...GAA...IV...LLRRTSGI...CS...R...RC...AAA...Q...			
C.E5.07.X2118_2	XL...GL...K...I...DTI...I...L...R...V...T...A...			
C.E8.02.02E7_258	GSIV...GL...K...I...DTI...I...L...RFW...CNA...F...AA...Q...			
C.GE.03.03GEMZ033	GS.V...GL...K...IN...DTI...I...LI...RI...G...Y...NV...F...AA...Q...			
C.IL.98.98IS002	GS.V...GL...K...I...FDTI...I...QL...NIW...T...CN...F...AA...Q...			
C.IN.03.D24	GS.V...GL...K...I...FDFI...T...I...L...LRI...LN...F...AA...Q...			
C.KE.00.KER2010	GC.CV...G...R...I...DTI...I...L...RI...LN...T...F...AA...Q...			
C.MM.99.mIDU101_3	GS.V...GL...K...I...DTI...I...A...HRI...F...AA...Q...			
C.MW.93.93MW.965	GS.V...GL...R...I...DTI...T...L...R...IR...CN...F...TA...Q...			
C.SN.90.90SE.364	GS.X...GL...K...I...DTI...T...I...L...RI...SN...F...AA...Q...			
C.S0.89.89SM.145	G.G...GL...K...I...DTI...T...I...LA...RI...GV...N...T...F...AA...Q...			
C.TZ.02.C0178	GGCG...GL...K...I...FDTI...I...L...RIG...T...F...TA#...Q...			
C.US.90.90US.MSC3018	GS.V...GL...R...I...DTI...I...FI...RI...V...N...T...F...AA...Q...			
C.UY.01.TRA3011	GS.V...GL...K...I...FDI...I...L...RIW...CN...F...AA...Q...			
C.YE.02.02YE511	GS.V...GL...K...I...VDTI...I...I...RS...LCN...F...AA...Q...			
C.ZA.05.05ZAPSK24081	GS.V...GL...K...N...DTI...L...LI...SF...G...N...W...AA...Q...			
C.ZM.02.02ZM108	GS.V...GL...K...I...DTI...I...L...RI...NT...F...AA...Q...			
D.CD.83.ELI	...R...S...FDI...I...R...V...LN...S...			
D.CM.01.01CM.0009BBY	...G...I...Y...V...LG...R...F...AL...T...F...A...			
D.CY.06.CY163	...R...D...I...W...F...A...			
D.KE.97.ML415_2	...I...I...T...V...A...II...R...F...FLN...T...F...A...I...			
D.KR.04.04KBH8	G...I...IR...FDI...RR...F...VL...T...F...A...I...			
D.SN.90.SE365	S...I...I...DTI...I...D...R...L...T...GA...			
D.TD.99.MM011	...R...I...D...I...I...R...A...LN...A...			
D.TZ.01.A280	...I...I...V...I...I...V...V...F...			
D.UG.99.99UGK09958	L...I...I...DIV...I...A...LR...F...LN...V...F...			
D.YE.02.02YE516	...R...I...I...F...I...I...R...G...LN...A...			
D.ZA.90.R1	...I...I...DTI...T...R...V...LN...V...L...			
F1.A0.06.A0.06.ANG125	...V...R...I...DT...T...I...AL...R...G...V...LN...V...T...A...			
F1.AR.02.ARE933	G.TL...RI...I...F...T...V...A...R...V...VCN...A...F...			
F1.BE.93.VI850	...G...TR...I...F...T...V...I...L...R...G...V...LN...A...A...			
F1.BR.07.07BR044	.G.A...I...I...F...T...VV...IL...AL...R...G...V...LN...K...A...			
F1.CY.08.CY222	...I...I...DTI...V...AL...R...G...V...LN...V...K...A...			
F1.ES.x.P1146	T...GR...I...F...TI...V...L...RIG...INV...F...S...			
F1.FI.93.FIN9363	G.II...I...I...F...T...V...AL...R...V...V...LN...RV...A...I...			
F1.FR.96.96FR.MP411	...A...I...T...V...L...R...G...V...LN...S...			
F1.FO.96.BCI.R07	T...T...I...TI...V...AL...VLT...LN...A...			
F1.RU.88.088.845	...G...G...I...V...W...L...AL...G...V...L...A...			
F2.CM.97.CM53657	G.A...GR...I...ID...T...V...I...L...R...G...L...A...A...			
G.BE.96.DRCBL	...L...AR...I...IN...DTI...NW...A...R...G...V...LN...A...			
G.CM.04.178_15	G.L...G...IN...FDTL...NW...T...R...LN...F...A...			
G.CN.08.GX.2084_08	L...G...IN...DTI...NW...AHR...CN...F...A...V...			
G.CU.99.CU74	V...G...IN...VDIV...V...NW...I...RT...FLN...F...A...Q...			
G.ES.09.X2634_2	L...L...GR...S...IN...DTV...NW...I...RVG...LN...A...			
G.GH.03.03GH175G	L...V...I...DTV...NW...I...R...G...LN...T...F...A...			

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863

cytoplasmic tail end  
gp41 end  
Env end

glycosylation NAT

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.WNLLQ...YW.SQ...ELKNSAVS.LLNATAIAVAEGTDRVIEVVOGAÇAIRHIPRRIRQGL.ERI.LL*
.L.GR.....IN..DTI...NW...I..R.F..FLN..T...A...
.L.GR.....VDTL..V.GNW...A.R.G..FL...V...A...
.L.GR.....IN..IDTV...NW...A...RVG..LN..V...L...
.L.GR.....I...DTV...NW...A.R...LN...T...A...
.G.L.G...G...I...T...I..L..R.W..L...F..A...
.H.BE.93.VI997...G...I...D...T...V...I..R.W..V...L...F..S...
.H.CF.98.056...G...I...D...T...V...I..R.W..V...L...F..S...
.H.GB.00.00GBAC4001...G...I...D...T...V...I..R.W..V...L...F..A...
.J.CD.97.J.97DC.KTB147...G.VC...G...I...A...I..IF...L...X...
.J.CM.04.04CMU11421...G.AW...G...I...DT..VX...I..IXRR.F.VL...F..A...
.J.SE.93.SE9280.7887...V.VW...G...I...T...I..IA.R.F.L...A...
.J.SE.94.SE9173.7022...V.VW...G...I...T...I..IA.R.F.L...A...
.K.CD.97.97ZR.E0TB11...G...I...IN...T...G...I..YR.F.LL...F..L...
.K.CM.96.96CM.MP535...V...G...I...IN...T...G...I..YR.F.LL...F..L...
01 AE.AF.07.569M...G.L...G...RI..I..D..I..GW...I..W..FI...
01 AE.CF.98.98CF11697...G.S...G...T..II..FD.V...GW...I..R.W..LI...
01 AE.CN.09.1119...G.L...G...I...I...FD.V...GW...A..W..L...T..V...
01 AE.HK.04.HK001...G.L...G...I...I...T...V...A..R.W..L...T..V...
01 AE.JP.x.DR0492...G.S...G...T..I..D...GW...A..R.W..FL...F..A...
01 AE.TH.04.BKM...G.I...G...T..I..FD.S...GW...A..VW..L...L...
01 AE.US.00.00U.MSC1164...G.L...G...I...I...DTA..I..GW...A..R.W..T...
01 AE.VN.98.98VND15...G.S...G...T..I..DTA...I..GW...A..R.W..FL...A..Q...
02 AG.CM.02.02CM.0013BBY...G.S...G...R..R..IN..DTI..V..GW...S..IG.R.G..LN...A..Q...
02 AG.CY.09.CY256...G.S...G...R..R..IN..DTI..V..GW...G..G.R..CN..T...A..Q...
02 AG.ES.06.P1261...G.S...G...I...DT..NW...I..IG.A.G..N...A...
02 AG.FR.91.DJ263...G.L...G...I...IN..DTI..L..NW...I..IG.RV.G..LN...A...
02 AG.GH.03.03GH181AG...G...G...I...I...DTI..NW...I..IG.RV.G..LN...A...
02 AG.LR.x.POC44951...S...G...I...IN..DTI..NW...I..IG.R.G..N..T..KT...
02 AG.NG.09.09NG.SC61...S...G...I...I...NW...I..IG.R.G...
02 AG.SE.94.SE7812...S...G...I...DTI..V..NW...L..R.G..LN...F..A...
02 AG.SN.98.98SE.MP1211...S...G...I...IN..DT..V..NW...I..RTG..CN...A..Q...
02 AG.US.06.06.592.2696.FL01...G...G...DTV..NW...T..IGRR..LN..T...F..A..Q...
02 AG.UZ.02.02UZ0683...T...G...I...IN..DT..NW...I..IG.R.G..LN...A...
03 AB.RU.97.KAL153.2...I...S...IN..IGTI...GW...I..IG.RF..M.N...A..KA..Q...
04 cpx.CY.94.94CY032.3...F.L...G...I...IN..F.T...I..A..R..CN...A...
05 DF.BE.x.VI1310...S.P...R...I...T..VV...AL..R.G..FLN...A...
06 cpx.AU.96.BFP00...G.TC...G...D..I...DTA...NW...I..L..RIF..FLNV...F..A..Q...
07 BC.CN.98.98CNC009...GS.V...L...K..I...VDTA...L...P...L.NR..EI..FLNV..S.S..F.GAA.SQ...
08 BC.CN.06.nx2...GS.V...R...L...K..TI..VH..I..L..P...L.NR..EI..FLNV..S.S..F.GAA.SQ...
09 cpx.GH.96.96GH2911...G.A...G...I...T...V...I..R.G..L...F..A...
10 CD.TZ.96.96TZ.BF061...I...I...I...DTI..E..GW...I..R.V..LN..T...A...
11 cpx.CM.95.95CM.1816...G.T...R...I...T...V...I..IHXRL..VL...A...
12 BF.AR.99.99ARNA159...V...G...I...V.G...I..L..A..RIG.G..LN...V...A...
13 cpx.CM.96.96CM.1849...V...G...R...I..IT..DS...W...I..TG.RIG.G.L...F..A..Q...
14 BG.ES.05.X1870...L...G...R...I...DTI..NW...A..X..VG..LMV.V...F...
15 01B.TH.99.99TH.MU2079...G.L...G...I...I...DT..GW...A..R.W..LR...F..A...
16 A2D.KR.97.97KR084...L...G...R...I...I...F..T...V...I..R..IN...F..A...
17 DF.AR.99.99ARMA038...V...G...I...S...IN..DTV..T..NW...AL..R.G..VLN...F..A...
18 cpx.CU.99.CU176...V...G...I...S...IN..DTV..T..NW...AL..R.G..VLN...F..A..Q...
19 cpx.CU.99.CU177...L...G...T...I...T...V..GW...A..II.R.W..VL...A...
20 BG.CU.99.CU103...G...G...I...IN..DTV...NW...I..I..RGF..FL...F..A...
21 A2D.KE.99.99KER2003...G...G...R..N..Y...I..R...LN...F..A...
22 01A1.CM.01.01CM.0001BBY...I...G...D...IT..T...GW...I..R.W..FL..T...F..A...
23 BG.CU.03.CB118...L...G...R...I...IN..DTV...NW...I..I..RGF..FL...F..A...
24 BG.ES.08.X2456.2...L...G...R...I...IN..YDTV...N..I..I..RGF..FL...F..A...
25 cpx.CM.02.1918LE...L...G...R...I...IN..DTI..T..DW...IA.R.G..LMV.V...A...
26 AU.CD.02.02CD.MBT047...A...G...I...IN..TI..V..C...IA..RGG..L...A..Q...
27 cpx.FR.04.04CD.FR.KZ5...G...G...I...IN..DTV..T..NW...A..R.G..IN...A..Q...
28 BF.BR.99.99BREP12609...G...L...L...R...I...T...L..RIE...N..T...A...
29 BF.BR.01.01BREP16704...L...L...R...I...T...L..RIE...N..T...A...
30 BF.BR.04.04BR142...KS.V...GL...K..I...DTI...I..I..IG..YN...F..AA..Q...
32 06A1.EE.01.EE0369...K.VC...G...I...IN..IDTI...DW...G..RVF..FLN...IA...
33 01B.ID.07.JKT189.C...G.S...I...I...I...I...I..IVW..L...F..S...
34 01B.TH.99.99OUR2478P...I...L...G...I...R..Y...L...A..I...
35 AD.AF.07.169H...L...G...T..TN..IDTI...GW...DI.G.RFG...GA...
36 cpx.CM.00.00CMNYU830...V...G...I...IT..D..VT..GW...A..RTG..LMV.T...A...
37 cpx.CM.00.00CMNYU926...L...G...I...IN..DT..V..GW...IA..R..L...F#..A..Q...
38 BF1.UY.03.UY03.3389...I...I...I...F..T...V...I..AL..R.G..VLN...A..I...
39 BF.BR.04.04BRRJ179...G.L...G...I...T...V...I..L..AL..RIG.G.L...S...
40 BF.BR.05.05BRRJ055...K...K...I...T...L...I..AL..RIG.G.L...S...
42 BF.LU.03.LUBF.05.03...L...R...R...I...I...XL.RXG..XL..T...A...
43 02G.SA.03.J11223...L...L...R...I...IN..VDTI...GW...A..R..IN...F..A...
44 BF.CL.00.CH80...G.A...G...I...T..V..GW...L..R.G..VL...F..A...
45 cpx.FR.04.04FR.AUK...G.A...G...I...D...V..GW...T..SL...FLN...A...
46 BF.BR.07.07BR.FP5625...G.AW...G...I...T...V...I..AL..S.G..VLN...A...
47 BF.ES.08.P1942...G...I...A...I...I...T...V...I..AL..S.G..VLN...A...
48 01B.MY.07.07MYKT021...G..I...A...I...I...T...V...I..ARR.W..I...A...
49 cpx.GM.03.N26677...G.VL...GK...I...FD..I...I..ARR.F..LLN..T...A...
51 01B.SG.11.11SG.HM021...I...I...I...F..V...I..RVW..FL...S...
0.BE.87.ANT70...AAVT...L...Q...T...DTL.V..NW..GI..AGI..RIGTG..N...S...
0.CM.91.MVP5180...GAWM...L...T...TN..DTI.VS..NW..GI..LGI..RIGOGFL...A..V...
0.CM.96.96CMA102...X...X...T...TN..DTF.V..GKW..NI..LGI..RIG.G.LN..XX..S...
0.CM.98.98CMA104...KAVI...L...Q...T...DTI.V..GKW..DI..LGI..RIG.G.LN...X..S...
0.CM.99.99CMU4122...AAVV...L...Q...TN..XDTL.V..NR..SIFLGI..RIG.G.LN...QA..V...
0.FR.92.VAU...KAI1...L...Q...TN..DTV.V..NW..SI..LGI..SIG.G.LN...L...
0.SN.99.99SE.MP1299...IAVI...L...Q...T...DTI.V..NW..VTI..LGI..RIG.G.LN...L...
0.US.97.97US98692A...AAVT...L...Q...TN..VDTI.V..NW..SI..LGI..RIG.G.LN...F..S...
0.US.99.99USTWLA...AAVT...L...Q...T...DTV.V..GKW..NI..SG...A..X...
N.CM.02.DJ00131...G.TIA...GK...D..I...TI..V...L..LA.RIG.G.L...A...
N.CM.04.04CM.1015.04...G.TA...GK...D..I...T...GX...L..LA.RIG.G.L...T...
N.CM.06.U14842...G.TIA...GK...XD..I...T..V...L..LA.RIG.G.L...V...
N.CM.95.YBF30...G.TA...GK...RD..I...T..V...L..LA.RIG.G.L...A..I...
N.CM.97.YBF106...G.TIA...GK...D..I...T..V...F..LA.RIG.G.L...A...
N.FR.11.N1.FR.2011...G.TA...GK...D..I...T..V...L..LA.RV.G.G.L...A..I...
P.CM.06.U14788...LRDCFAAG...T...X..T..X..TV..S..NW..0...S..GTG..GFLN...L...
P.FR.09.RBF168...LRDCFAAG...T...Q...T...DTV..S..GW..0...I..G..GTG...I..S...
CPZ.CD.90.ANT...NHLENNLSTL.TIIRT...I.IK.NIDRL..W.G.K..SILLAL.TIV.I..EV...IA..N...
CPZ.CM.05.SIVcpzMT145...RGI...TT...I...I...DT..V..G...I..L.AITRLG.G.L...A...
CPZ.GA.88.GAB1...GGII...GK...I...I...D...I..AF.VTL.I..N...A...
CPZ.TZ.00.TAN1...E.SSNT...A...#..SF.NT#AIDRL.NFTGW..LI..G.VYIA.G..N...LA..N...
CPZ.US.85.US.Marilyn...G.VIA...AR...V..T..DT...I..LTRLFLG.I...S...
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Table with columns for myristoylation, Nef start, acidic cluster, phosphorylation, and poly-P helix. Rows list various HIV-1 Nef protein sequences and their corresponding amino acid residues.



