APPENDICES

APPENDIX A

Results of RT MSSP assay in serum samples from Thailand in each genome region

No.	ID	HIV sub type in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
1	1	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
2	8	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
3	11	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
4	24	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
5	34	_	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
6	59	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	_	5	CRF01_AE
7	70	_	B	B	B	_	_	B	CRF01_AE	5	CRF01_AE/B
8	72	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
9	77	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	6	CRF01_AE
10	87	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
11	99	_	B	_	B	CRF01_AE	_	CRF01_AE	_	4	CRF01_AE/B
12	100	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
13	102	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
14	104	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
15	117	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
16	119	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
17	125	_	B	_	B	CRF01_AE	_	_	_	3	CRF01_AE/B-containing strain
18	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
19	141	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	5	CRF01_AE
20	154	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
21	155	_	CRF01_AE	CRF01_AE	_	CRF01_AE	_	CRF01_AE	CRF01_AE	5	CRF01_AE
22	159	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
23	168	CRF01_AE	_	_	CRF01_AE	_	_	CRF01_AE	CRF01_AE	4	CRF01_AE
24	185	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
25	187	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
26	209	B	B	_	_	_	_	_	_	2	B-containing strain
27	248	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
28	259	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
29	260	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
30	262	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
31	265	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
32	269	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
33	279	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
34	285	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
35	289	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
36	293	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
37	296	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
38	330	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
39	345	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
40	354	CRF01_AE	B	B	CRF01_AE	B	CRF01_AE	B	CRF01_AE /B	8	CRF01_AE/B Dual
41	357	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE /B	CRF01_AE /B	8	CRF01_AE/B Dual
42	390	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
43	394	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
44	401	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
45	402	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
46	403	_	B	CRF01_AE	CRF01_AE	_	CRF_01AE /B	CRF_01AE	CRF_01AE /B	6	CRF01_AE/B Dual
47	425	CRF01_AE	_	CRF01_AE	CRF01_AE	B	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE/B
48	428	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
49	449	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
50	462	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
51	478	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
52	497	CRF01_AE	_	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	5	CRF01_AE
53	498	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
54	562	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
55	565	_	_	_	_	_	_	_	_	0	Non-typable
56	624	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
57	629	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
58	646	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
59	652	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
60	662	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
61	673	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
62	680	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
63	704	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
64	718	CRF01_AE	_	_	CRF01_AE	CRF01_AE	_	_	_	3	CRF01_AE-containing strain
65	760	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
66	762	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
67	767	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
68	787	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
69	789	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
70	800	_	B	B	_	B	_	CRF01_AE	CRF01_AE /B	5	CRF01_AE/B Dual
71	807	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
72	825	_	B	B	B	B	B	_	_	5	B
73	851	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
74	864	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
75	876	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
76	909	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
77	915	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
78	917	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
79	927	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
80	984	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
81	998	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
82	1045	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
83	1061	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
84	1062	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
85	1064	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
86	1071	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
87	1081	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
88	1102	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
89	1110	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
90	1111	_	B	CRF01_AE	CRF01_AE	B	CRF01_AE	B	_	6	CRF01_AE/B

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
91	1112	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
92	1116	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
93	1127	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
94	1129	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
95	1150	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
96	1151	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
97	1166	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
98	1172	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
99	1175	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
100	1185	CRF01_AE	_	CRF01_AE	CRF01_AE	_	_	CRF01_AE	CRF01_AE	5	CRF01_AE
101	1210	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
102	1226	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
103	1236	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
104	1246	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
105	1247	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
106	1263	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
107	1292	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	B	8	CRF01_AE/B
108	1323	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
109	1324	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
110	1331	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	CRF01_AE	7	CRF01_AE/B
111	1332	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	CRF01_AE	7	CRF01_AE/B
112	1368	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
113	1395	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
114	1409	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
115	1410	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
116	1415	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
117	1420	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE /B	CRF01_AE	CRF01_AE	7	CRF01_AE/B Dual
118	1423	_	_	B	B	_	_	_	B	3	B-containing strain
119	1432	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
120	1435	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
121	1452	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
122	1459	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
123	1475	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
124	1504	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
125	1512	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
126	1534	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
127	1562	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
128	1570	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
129	1571	_	_	_	_	_	_	_	_	0	Non-typable
130	1579	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
131	1582	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
132	1607	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
133	1631	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
134	1637	_	CRF01_AE	B	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE/B
135	1670	_	B	B	B	CRF01_AE	CRF01_AE	B	B	7	CRF01_AE/B

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
136	1674	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
137	1701	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
138	1731	CRF01_AE	_	CRF01_AE	CRF01_AE	_	_	CRF01_AE	CRF01_AE	5	CRF01_AE
139	1734	CRF01_AE	_	_	_	CRF01_AE	_	_	_	2	CRF01_AE-containing strain
140	1736	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
141	1763	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
142	1777	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
143	1780	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
144	1787	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	_	_	4	CRF01_AE
145	1793	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
146	1824	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
147	1842	_	B	B	B	_	B	B	B	6	B
148	1847	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
149	1865	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
150	1873	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
151	1878	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
152	1881	_	_	CRF01_AE	_	_	_	_	_	1	CRF01_AE-containing strain
153	1885	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
154	1887	_	_	_	_	CRF01_AE	_	_	_	1	CRF01_AE-containing strain
155	1891	CRF01_AE	_	B	CRF01_AE	CRF01_AE	_	CRF01_AE	B	6	CRF01_AE/B
156	1893	_	_	B	B	_	_	_	_	2	B-containing strain
157	1900	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
158	1901	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
159	1909	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
160	1913	CRF01_AE	CRF01_AE /B	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE/B Dual
161	1922	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
162	1926	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
163	1933	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
164	1946	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
165	1955	_	CRF01_AE	CRF_01AE /B*	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE/B Dual

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
166	1969	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	7	CRF01_AE/B
167	1971	CRF01_AE	_	_	CRF01_AE	_	_	_	_	2	CRF01_AE-containing strain
168	1973	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
169	1974	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
170	1976	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
171	1977	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
172	1978	CRF01_AE	CRF01_AE	CRF01_AE /B	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE/B Dual
173	1979	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
174	1986	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
175	2019	CRF01_AE	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
176	2032	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
177	2039	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
178	2043	_	B	B	B	B	B	B	B	7	B
179	2056	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
180	2072	C	C	_	_	_	_	_	_	2	C-containing strain

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
181	2076	C	C	C	C	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE/C
182	2091	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
183	2114	CRF01_AE	CRF01_AE	CRF01_AE /B*	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	8	CRF01_AE/B Dual
184	2135	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
185	2137	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	_	5	CRF01_AE
186	2143	CRF01_AE	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
187	2145	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
188	2160	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
189	2164	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
190	2165	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
191	2166	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not available
192	2183	_	_	_	B	B	B	B	B	5	B
193	2194	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
194	2196	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
195	2204	CRF01_AE	_	_	_	_	_	CRF01_AE	CRF01_AE	3	CRF01_AE-containing strain

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
196	2205	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
197	2208	_	B	CRF01_AE	CRF01_AE	_	_	CRF01_AE	CRF01_AE	5	CRF01_AE/B
198	2211	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF_01AE
199	2212	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF_01AE
200	2214	CRF01_AE	B	CRF01_AE /B*	CRF01_AE	B	CRF01_AE	B	B	8	CRF_01AE/B Dual
201	2216	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
202	2217	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
203	2218	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
204	2221	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
205	2223	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
206	2224	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
207	2225	_	B	B	B	B	CRF01_AE	B	B	7	CRF01_AE/B
208	2226	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
209	2228	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
210	2229	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
211	2230	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
212	2232	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
213	2234	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
214	2240	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
215	2243	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
216	2245	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
217	2247	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
218	2248	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
219	2256	CRF01_AE	_	CRF01_AE	_	CRF01_AE	_	CRF01_AE	CRF01_AE	5	CRF01_AE
220	2257	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
221	2258	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
222	2259	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
223	2260	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
224	2265	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
225	2266	_	B	CRF01_AE /B*	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE/B Dual

No.	ID	HIV subtype in each genome region								No. of typeable region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
226	2267	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
227	2270	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
228	2274	_	_	_	B	B	_	_	B	3	B-containing strain
229	2275	CRF01_AE	CRF01_AE	B*	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	8	CRF01_AE/B
230	2277	_	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	5	CRF01_AE
231	2283	_	B	B	B	_	_	B	B	5	B
232	2284	CRF01_AE	B	B	_	B	B	_	_	5	CRF01_AE/B
233	2286	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
234	2289	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
235	2292	_	B	B	B	B	CRF01_AE	B	B	7	CRF01_AE/B
236	2294	_	CRF01_AE	CRF01_AE	_	CRF01_AE	_	CRF01_AE	CRF01_AE	5	CRF01_AE
237	2295	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
238	2296	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
239	2306	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
240	2308	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
241	2309	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
242	2310	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
243	2313	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
244	2318	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
245	2321	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
246	2330	_	B	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE/B
247	2337	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
248	2338	_	_	CRF01_AE	_	CRF01_AE	CRF01_AE	_	_	3	CRF01_AE-containing strain
249	2339	_	_	_	_	_	_	B	B	2	B-containing strain
250	2342	_	B	B	B	B	B	B	B	7	B
251	2343	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
252	2344	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	_	_	5	CRF01_AE
253	2348	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	_	_	4	CRF01_AE
254	2351	_	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	5	CRF01_AE
255	2352	CRF01_AE	_	_	_	_	_	CRF01_AE	CRF01_AE	3	CRF01_AE-containing strain

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
256	2354	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
257	2363	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
258	2364	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
259	2366	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
260	2368	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
261	2369	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
262	2371	B	B	B	B	CRF01_AE	CRF01_AE	B	B	8	CRF01_AE/B
263	2372	_	B	B	B	B	B	B	B	7	B
264	2373	_	B	B	B	B	B	B	B	7	B
265	2378	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
266	2382	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	_	5	CRF01_AE
267	2383	CRF01_AE	_	_	CRF01_AE	CRF01_AE	CRF01_AE	_	_	4	CRF01_AE
268	2384	_	B	B	CRF01_AE	B	CRF01_AE	B	B	7	CRF01_AE/B
269	2387	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
270	2388	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
271	2391	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
272	2392	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
273	2393	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
274	2394	_	B	B	B	B	B	B	B	7	B
275	2397	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
276	2398	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
277	2400	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
278	2402	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
279	2403	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
280	2404	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
281	2406	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
282	2413	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
283	2414	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
284	2415	_	_	CRF01_AE	CRF01_AE	B	_	CRF01_AE	CRF01_AE	5	CRF01_AE/B
285	2417	_	B	CRF01_AE	CRF01_AE	_	_	CRF01_AE	CRF01_AE	5	CRF01_AE/B

No.	ID	HIV subtype in each genome region								No. of typeable region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
286	2422	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	CRF01_AE	7	CRF01_AE/B
287	2423	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
288	2427	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
289	2428	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
290	2429	CRF01_AE /C	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	CRF01_AE	6	CRF01_AE/C Dual
291	2430	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
292	2431	_	_	_	_	_	_	_	_	0	Non-typable
293	2432	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
294	2433	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
295	2435	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
296	2436	CRF01_AE	B	B*	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE/B
297	2438	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
298	2444	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
299	2451	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
300	2456	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
301	2458	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	_	_	_	4	CRF01_AE
302	2461	CRF01_AE	_	_	CRF01_AE	_	_	CRF01_AE	CRF01_AE	4	CRF01_AE
303	2471	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
304	2472	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
305	2473	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
306	2474	CRF01_AE	_	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
307	2475	_	_	CRF01_AE	CRF01_AE	_	_	_	_	2	CRF01_AE-containing strain
308	2476	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	7	CRF01_AE/B
309	2477	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
310	2478	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	7	CRF01_AE/B
311	2479	_	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	B	CRF01_AE	6	CRF01_AE/B
312	2480	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	6	CRF01_AE
313	2481	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	_	_	5	CRF01_AE
314	2482	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	6	CRF01_AE
315	2485	_	B	B	B	B	B	B	B	7	B

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
316	2493	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
317	2494	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
318	2495	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	7	CRF01_AE
319	2497	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE /B	CRF01_AE	8	CRF01_AE/B Dual
320	2498	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	7	CRF01_AE
321	2499	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
322	2510	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
323	2511	CRF01_AE	CRF01_AE /B	CRF01_AE /B	CRF01_AE	CRF01_AE /B	CRF01_AE	B	B	8	CRF01_AE/B Dual
324	2513	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
325	2516	_	_	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	6	CRF01_AE
326	2521	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	_	CRF01_AE	CRF01_AE	7	CRF01_AE
327	2522	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
328	2525	_	_	CRF01_AE	_	_	_	CRF01_AE	CRF01_AE	3	CRF01_AE-containing strain
329	2527	B	B	B	_	B	_	B	B	6	B
330	2530	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE

No.	ID	HIV subtype in each genome region								No. of typeable region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
331	2532	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
332	2535	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
333	2538	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
334	2543	_	_	CRF01_AE	CRF01_AE	B	_	CRF01_AE	CRF01_AE	5	CRF01_AE/B
335	2544	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
336	2545	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
337	2546	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
338	2547	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
339	2555	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
340	2557	CRF01_AE	_	_	_	CRF01_AE	_	_	_	2	CRF01_AE-containing strain
341	2560	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
342	2565	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
343	2566	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
344	2567	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	CRF01_AE	8	CRF01_AE
345	2574	_	B	CRF01_AE	_	_	CRF01_AE	B	B	5	CRF01_AE/B

No.	ID	HIV subtype in each genome region								No. of type able region	Strain
		Gag	*Pol protease*	*Pol RT*	*Pol integrase*	*Vpr*	*Gp120*	*Rev*	*Nef*		
346	2575	CRF01_AE	_	_	CRF01_AE	_	_	_	_	2	CRF01_AE-containing strain
347	2576	_	CRF01_AE	CRF01_AE	_	CRF01_AE	_	CRF01_AE	CRF01_AE	5	CRF01_AE

B* = subtype B in Pol RT region that gave a strong positive PCR product but with a larger molecular size than expected.

APPENDIX B

EQUIPMENTS

1. Biological safety cabinet class II	BioGARD®: USA
2. Refrigerator 4°C	Toshiba®: Thailand
3. Refrigerator 4°C	National®: Thailand
4. Freezer - 20°C	Sanyo®: Thailand
5. Freezer - 70°C	Revco®: USA
6. Vortex mixer	Genie® USA
7. Heating block	Thermolyne®: USA
8. Microcentrifuge	Eppendorf®5415C:Germany
9. Waterbath	Memmert®: Germany
10. Microscope	Olympus® CF31 RBSF:Japan
11. Centrifuge	Beckman® GS-6R: USA
12. Centrifuge	Kobota ®5200: Japan
13. Gel Doc print	Viber Lourmat: France
14. UV transilluminators	FOTO/UV26®: USA
15. Multichannel pipette	Matrix®: USA
16. Mini Electrophoresis blotting system	BIO101®: USA
17. Autoclave machine	Harayama ®HA 300M11:Japan
18. Thermocycler	96-well GeneAmp® PCR System 9700 (Applied Biosystems): USA

19. Thermocycler	MJ Research® PTC-200 DNA EngineThermal Cycler PCR: USA
20. Thermocycler	Perkin Elmer® GeneAmp 9600 PCR machine: USA
21. Microwave	Sharp® Thailand
22. Balance	Mettler Toledo® :Switzerland
23. Multichannel pipette 10 ul	Rainin®: USA
24. Multichannel pipette 10 ul	Socorex®: Switzerland
25. Pipette 10 ul	Rainin®: USA
26. Automatic pipette 10 ul	Rainin®: USA
27. Automatic pipette P20, P100,P200, P1000	Gilson: France
28. Repetitive pipette (Distriman)	Gilson: France

APPENDIX C

SUPPLIES

1. K3-EDTA tube 6 ml	Vacuette®: Austria
2. Biofreeze Vial tube	Costa®: Canada
3. Centrifuge tube 15 ml	Corning®: USA
4. Microcentrifuge tube 1.5 ml (MCT-150)	Axygen®: USA
5. Transfer pipette	Costa®: Canada
6. Pasteur pipette	Sarstedt®: Germany
7. PCR-02CP-C Cap strips	Axygen®: USA
8. PCR -96-AB-C microplate	Axygen®: USA
9. Thin wall, Domed cap	Axygen®: USA
10. Filter tip 0.5-10 ul (TF-300-R-S)	Axygen®: USA
11. Filter tip 0.5-10 ul (TF-400-R-S)	Axygen®: USA
12. Filter tip 0.5-10 ul (RT-10GF)	Rainin®: USA
13. Filter tip 20 ul (RT-20F)	Rainin®: USA
14. Filter tip 100 ul (RT-100F)	Rainin®: USA
15. Filter tip 250 ul (RT-250F)	Rainin®: USA
16. Filter tip 20 ul (RT-20F)	Rainin®: USA
17. Filter tip 1,000 ul (TF-1000-R-S)	Axygen®: USA
18. Pipette tip for Matrix Equalizer 30 ul	Matrix®: USA
19. Disposable gloves	Sempermed®: Thailand
20. Distritip Micro 125ul	Gilson: France

APPENDIX D

CHEMICALS AND REAGENTS

1. Absolute ethanol	Merck®: Germany
2. Certified Molecular Biology Agarose	Bio-Rad®: USA
3. Trizma base	Sigma®: USA
4. Boric acid	Sigma®: USA
5. $Na_2EDTA.2H_2O$	AnalaR®: England
6. NaCl	Merck®: Germany
7. Na_2HPO_4	Merck®: Germany
8. NaH_2PO_4	Merck®: Germany
9. Ethidium bromide	Sigma®: USA
10. Lymphocyte Separation Medium	Cappel®: USA
11. Trypan blue	Merck®: Germany
12. QIAamp DNA Blood Mini Kit	Qiagen®: Germany
13. QIAamp Viral RNA Mini Kit	Qiagen®: Germany
14. dNTP	Amresco®: USA
15. AmpliTaq GOLD DNA Polymerase	Applied Biosystems®: USA
16. One step RT-PCR kit	Qiagen®: Germany
17. Primers	Sigma®: USA
18. 50 bp DNA ladder	BioLabs®: UK
19. Glyceral	Sigma®: USA

20. Bromophenol blue	Sigma®: USA
21. Xylene cyanol FF	Sigma®: USA

APPENDIX E

REAGENT PREPARATIONS

1. Phosphate buffer saline (PBS) pH 7.2

1.1 Stock solution (10X PBS)

NaCl	25 g
Na_2HPO_4	12 g
NaH_2PO_4	2 g
add deionized water up to	1000 ml

1.2 Working solution

PBS 10 X	100 ml
add deionized water	900 ml

2. Tris-Borate/ EDTA Electrophoresis buffer (TBE) pH 8.3

2.1 Stock solution (10X TBE)

Trizma base	121.1 g
Boric acid anhydrous	55.6 g
$Na_2EDTA.2H_2O$	3.7 g
add deionized water up to	1000 ml

2.2 Working solution

TBE 10 X	100 ml
add deionized water	900 ml

3. Loading buffer

Bromophenol blue	0.25 g
Xylene cyanol FF	0.25 g
Glycerol	30 ml
1XTBE	70 ml

4. 3 % Agarose

Agarose	3 g
1XTBE	100 ml
Boil in microwave	
add ethidium bromide 5 mg/ml	10 ul

5. 2.5 mM each dNTP

100 mM dATP	25 ul
100 mM dCTP	25 ul
100 mM dTTP	25 ul
100 mM dGTP	25 ul
add deionized water	900 ul

6. 70 % ethanol

Absolute ethanol	70 ml
add distilled water	30 ml

7. Ethidium bromide 5 mg/ml

Ethidium bromide	50 mg
Deionized water	10 ml

CURRICULUM VITAE

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NATIONALITY: Thai

SEX: Male

MARITAL STATUS: Married

PLACE AND DATE OF BIRTH: Suphanburi, Thailand- 12th July, 1975

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WORKING EXPERIENCES

1997-1999 Medical Technologist
Central Chiang Mai Memorial Hospital
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1999- 2003 Medical Technologist
Research Institute for Health Sciences,
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2003-present	Study in Master of Health Sciences at Chiang Mai university by grant of The Johns Hopkins University Fogarty AIDS International Training and Research Program (AITRP)
2004	Training in HIV subtyping at Henry M. Jackson Foundation, Rockville, MD, USA
2004-2005	Research Fellow of the Fogarty/Ellison Fellowship Program in global health and clinical research.

PUBLICATIONS & PRESENTATIONS

1. **Sakkhachornphop S**, Pichayangkul S, and Hirunpetcharat C. 2000.Production and purification of the 19- kDa carboxyl-terminal fragment of *Plasmodium yoelii* merozoite surface protein-1 ($MSP1_{19}$) as a flag fusion protein expressed in *Saccharomyces cerevisiae*.*Bull Chiang Mai Assoc Med Sci* ;33 : 161-71.
2. Hirunpetcharat C, **Sakkhachornphop S**, Pichyangkul S , Krieg AM, and Good MF. Protective immunity induced in mice by parenteral immunization with yeast-expressed 19 kDa carboxyl terminal fragment of *Plasmodium yoelii* merozoite surface protein-1 ($MSP1_{19}$) using montanide 51, montanide 720 and CpG oligodeoxynucleotides as adjuvants. Presented at the 18 th Annual Health Sciences Meeting. June 8, 2000. Research Institute for Health Sciences. Chiang Mai University.
3. Chearwae W, **Sakkhachornphop S**, Chumpookhod A, Chumpookhod S, Palanan P, Tejafong K, Kitisri J, and Chanbancherd P. Application of dried

blood spots in molecular epidemiological study of HIV-1. Presented at the 19 th Annual Health Sciences Meeting. August 24, 2001. Research Institute for Health Sciences. Chiang Mai University.

4. Hirunpetcharat C, Wipasa J, **Sakkhachornphop S**, Nitkumhan T, Zheng YZ, Pichyangkul S, Krieg AM, Walsh DS, Heppner DG, and Good MF. CpG oligonucleotide enhances immunity blood-stage malaria infection in mice parenterally immunized with a yeast-expressed 19 kDa carboxyl-terminal fragment of *Plasmodium yoelii* merozoite surface protein-1 ($MSP1_{19}$) formulated in oil-based Montanides. Vaccine 2003; 21: 2923-32.
5. Tovanabutra S, Beyrer C, **Sakkhachornphop S**, *et al*. The Changing Molecular Epidemiology of HIV-1 Among Northern Thai Drug Users, 1999 to 2002. AIDS Res Hum Retroviruses 2004; 20 :Number 5 : Issue date May 2004
6. **Sakkhachornphop S**, Tovanabutra S, Kijak G, *et al*. Development and Application of the Multi-region Subtype Specific PCR (MSSP) Assay for HIV-1 Subtypes B, C, CRF01_AE, Their Recombinant Forms, and Dual Infections. Oral presentation at the 13 th HIV Dynamics and Evolution. April 5-8, 2006.Marine Biology Labs. Woods Hole. MA. USA