

**Table S4.** Major recombination events identified by all detection methods in RDP4

Recombinant (Accession No.)	Major parent (Accession No.)	Minor parent (Accession No.)	Breakpoint positions	Detection methods ( <i>p</i> -value)						
				RDP	GENECONV	BootScan	MaxChi	Chimaera	SiScan	3Seq
HLJ1 (JX681125)	TH-8 (MH496779) 98.9% similarity	Phoca/Caspian/ 2007 (HM046486) 99.9% similarity	12926 – 14264	1.58E-72	3.39E-70	6.38E-73	1.75E-16	3.12E-16	1.66E-19	4.32E-11
2645 (AY445077)	2689 (AY649446) 98% similarity	Snyder Hill (JN896987) 98.9% similarity	7131 – 9032	2.85E-48	7.68E-47	4.65E-50	2.89E-19	1.25E-05	8.31E-27	2.88E-11
2654 (AY466011)										
2645 (AY542312)										
ZC (KJ994343)	PS (JN896331) 98% similarity	Onderstepoort (AF305419) 100% similarity	11586 – 12022	1.44E-32	3.70E-31	9.45E-33	3.10E-05	2.46E-05	8.96E-07	4.32E-11
007Lm (AB474397)	011C (AB476401) 99.5% similarity	2689 (AY649446) 99.8% similarity	7054 – 7555	2.98E-27	1.51E-25	2.09E-23	6.68E-08	1.80E-07	2.58E-07	2.88E-11
007Lm (AB474397)	011C (AB476401) 99.7% similarity	2689 (AY649446) 99.9% similarity	9794 – 10563	1.68E-27	2.21E-26	1.59E-27	1.18E-06	1.16E-06	5.22E-07	2.88E-11
2689 (AY649446)	2601 (AY443350) 99% similarity	164071 (EU716337) 99.8% similarity	4940 – 6962	4.32E-19	6.93E-18	1.56E-20	2.20E-11	1.54E-12	4.91E-13	2.28E-16
ZC (KJ994343)	Unknown strain (171391513_KJ1237 71)	164071 (EU716337) 99.4% similarity	12925 – 14137	1.06E-10	3.56E-10	5.50E-08	1.74E-08	2.95E-08	5.27E-06	2.02E-07
171391513 (KJ123771)	Unknown strain (A7517_AF164967)	164071 (EU716337) 100% similarity	2008 – 5718	6.70E-09	5.90E-07	6.74E-09	9.54E-06	3.78E-05	3.37E-05	2.43E-06
2654 (AY466011)	164071 (EU716337) 97.8% similarity	CDV3 (EU726268) 99.5% similarity	2134 – 2556	1.26E-07	3.95E-07	1.35E-07	1.63E-03	4.87E-04	7.20E-03	1.60E-04
CDV4_TH (MH496775)	CDV8_TH (MH496779) 99% similarity	171391513 (KJ123771) 100% similarity	8250 – 8987	7.05E-09	1.71E-10	5.96E-12	0.0446697	NS	0.0001756	2.14E-06

