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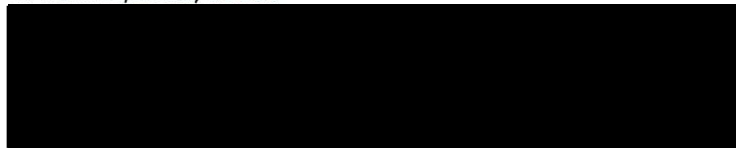
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## FMD Supplementary Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2011/00006

Sender Details:



Date Received: 7<sup>th</sup> February 2011

Country of Origin: South Korea

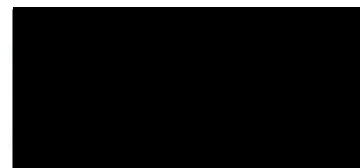
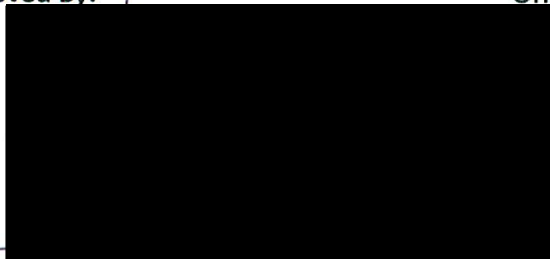
Date Reported: 17<sup>th</sup> February 2011

Dear Dr. In-So Cho,

Supplementary sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at: <http://www.wrlfmd.org/>

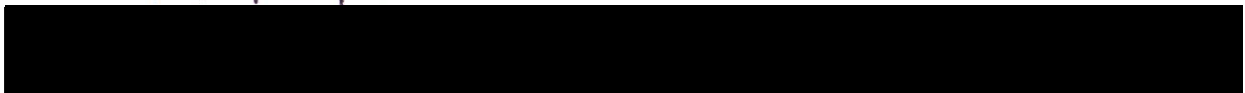
Results Approved By: |

Official Stamp:



Date:

17/2/11



To help us improve the quality of our service, please send any suggestions or requests to the Reference Laboratory by fax (+44 (0) 1483 232621 or email: [elizabeth.wilson@bbsrc.ac.uk](mailto:elizabeth.wilson@bbsrc.ac.uk))

# FAO World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD)

## Genotyping Report

Report Date for this Batch: 17 February 2011

FMDV type O

Country: South Korea

Period: 2010

No. of samples: 1

Requested comparison of O/Andong/1/SKR/2010 (NVRQS) to WRLFMD  
VP1 sequence database.

Prepared by: N.J. Knowles

Checked by: D.P. King



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Report on: O/Andong 1/SKR/2010 (NVRQS)

	Virus name	Source †	Filename	Compared	Matched	Ambig	%Identity	%Difference	Topotype	Strain
1	O/SKR/5/2010	WRLFMD	SKR10-05	639	639	0	100.00	0.00	SEA	Mya-98
2	O/SKR/6/2010	WRLFMD	SKR10-06	639	639	0	100.00	0.00	SEA	Mya-98
3	O/Paju/SKR/2010	NVRQS	SKR10-AF	639	634	0	99.22	0.78	SEA	Mya-98
4	O/SKR/3/2011	WRLFMD	SKR11-03	639	634	0	99.22	0.78	SEA	Mya-98
5	O/SKR/7/2010	WRLFMD	SKR10-07	639	634	0	99.22	0.78	SEA	Mya-98
6	O/Yeoncheon/SKR/2010	NVRQS	SKR10-AE	639	634	0	99.22	0.78	SEA	Mya-98
7	O/HKN/13/2010	WRLFMD	HKN10-13	639	633	0	99.06	0.94	SEA	Mya-98
8	O/HKN/14/2010	WRLFMD	HKN10-14	639	633	0	99.06	0.94	SEA	Mya-98
9	O/HKN/15/2010	WRLFMD	HKN10-15	639	633	0	99.06	0.94	SEA	Mya-98
10	O/HKN/7/2010	WRLFMD	HKN10-07	639	633	0	99.06	0.94	SEA	Mya-98
11	O/HKN/8/2010	WRLFMD	HKN10-08	639	633	0	99.06	0.94	SEA	Mya-98
12	O/RUS/Jul 2010	ARRIAH	RUS10-AA	639	633	0	99.06	0.94	SEA	Mya-98
13	O/SKR/1/2011	WRLFMD	SKR11-01	639	633	0	99.06	0.94	SEA	Mya-98
14	O/Yangju/SKR/2010	NVRQS	SKR10-AD	639	633	0	99.06	0.94	SEA	Mya-98
15	O/HKN/10/2010	WRLFMD	HKN10-10	639	632	0	98.90	1.10	SEA	Mya-98
16	O/HKN/11/2010	WRLFMD	HKN10-11	639	632	0	98.90	1.10	SEA	Mya-98
17	O/HKN/12/2010	WRLFMD	HKN10-12	639	632	0	98.90	1.10	SEA	Mya-98
18	O/HKN/9/2010	WRLFMD	HKN10-09	639	632	0	98.90	1.10	SEA	Mya-98
19	O/JPN/2010	NAIAH	JPN10-AA	639	632	0	98.90	1.10	SEA	Mya-98
20	O/Ganghwa/SKR/2010	NVRQS	SKR10-AB	639	629	0	98.44	1.56	SEA	Mya-98
21	O/VIT/NCVD-8/2010	NVRQS	VIT10-AA	639	629	0	98.44	1.56	SEA	Mya-98
22	O/SKR/4/2010	WRLFMD	SKR10-04	639	628	0	98.28	1.72	SEA	Mya-98
23	O/VIT/NCVD-9/2010	NVRQS	VIT10-AB	639	628	0	98.28	1.72	SEA	Mya-98
24	O/MYA/5/2009	HQ116228	MYA09-05	639	624	0	97.65	2.35	SEA	Mya-98
25	O/MYA/6/2009	HQ116229	MYA09-06	639	624	0	97.65	2.35	SEA	Mya-98
26	O/VIT/NCVD-19/2010	NVRQS	VIT10-AE	639	623	0	97.50	2.50	SEA	Mya-98
27	O/VIT/NCVD-20/2010	NVRQS	VIT10-AF	639	623	0	97.50	2.50	SEA	Mya-98
28	O/HKN/19/2010	WRLFMD	HKN10-19	639	622	0	97.34	2.66	SEA	Mya-98
29	O/HKN/20/2010	HM229661	HKN10-20	639	622	0	97.34	2.66	SEA	Mya-98
30	O/TAI/22/2009	HQ116269	TAI09-22	639	622	0	97.34	2.66	SEA	Mya-98
31	O/VIT/NCVD-17/2010	NVRQS	VIT10-AC	639	622	0	97.34	2.66	SEA	Mya-98
32	O/VIT/NCVD-18/2010	NVRQS	VIT10-AD	639	622	0	97.34	2.66	SEA	Mya-98
33	O/HKN/1/2010	WRLFMD	HKN10-01	639	621	0	97.18	2.82	SEA	Mya-98
34	O/HKN/18/2010	WRLFMD	HKN10-18	639	621	0	97.18	2.82	SEA	Mya-98
35	O/HKN/4/2010	WRLFMD	HKN10-04	639	621	0	97.18	2.82	SEA	Mya-98
36	O/HKN/6/2010	WRLFMD	HKN10-06	639	620	0	97.03	2.97	SEA	Mya-98
37	O/MYA/1/04*	TRRL	MYA04-AA	639	606	0	94.84	5.16	SEA	Mya-98
38	O/MYA/2/04*	TRRL	MYA04-AB	639	606	0	94.84	5.16	SEA	Mya-98
39	O/TAI/36/04*	TRRL	TAI04-AB	639	602	0	94.21	5.79	SEA	Mya-98
40	O/VIT/6/05*	TRRL	VIT05-AF	639	602	0	94.21	5.79	SEA	Mya-98
41	O/MYA/11/2009	HQ116232	MYA09-11	639	601	0	94.05	5.95	SEA	Mya-98
42	O/MYA/13/2009	WRLFMD	MYA09-13	639	601	0	94.05	5.95	SEA	Mya-98
43	O/MOG/2004	ARRIAH	MOG04--A	637	599	2	94.03	5.97	SEA	Mya-98
44	O/HLJOC12/03	DQ119643	CHA03-AA	633	595	0	94.00	6.00	SEA	Mya-98
45	O/MYA/3/2010	WRLFMD	MYA10-03	639	600	0	93.90	6.10	SEA	Mya-98
46	O/VIT/9/05*	TRRL	VIT05-AI	639	599	0	93.74	6.26	SEA	Mya-98
47	O/MYA/10/2009	HQ116231	MYA09-10	639	597	0	93.43	6.57	SEA	Mya-98
48	O/VIT/4/05*	TRRL	VIT05-AD	639	597	0	93.43	6.57	SEA	Mya-98
49	O/VIT/4/2005	HQ116278	VIT05-04	639	597	0	93.43	6.57	SEA	Mya-98
50	O/MYA/4/2002	HQ116221	MYA02-04	639	595	0	93.11	6.89	SEA	Mya-98
51	O/MYA/1/2006	WRLFMD	MYA06-01	639	594	0	92.96	7.04	SEA	Mya-98
52	O/MYA/3/04*	TRRL	MYA04-AC	639	594	0	92.96	7.04	SEA	Mya-98

	Virus name	Source†	Filename	Compared	Matched	Ambig	%Identity	%Difference	Topotype	Strain
53	O/MYA/4/04*	TRRL	MYA04-AD	639	594	0	92.96	7.04	SEA	Mya-98
54	O/MYA/7/98	DQ164925	MYA98-07	639	593	0	92.80	7.20	SEA	Mya-98
55	O/VIT/10/05*	TRRL	VIT05-AJ	639	592	0	92.64	7.36	SEA	Mya-98
56	O/MAY/3/2001	DQ164920	MAY01-03	639	590	0	92.33	7.67	SEA	Mya-98
57	O/MYA/2/2000	DQ164927	MYA00-02	639	590	0	92.33	7.67	SEA	Mya-98
58	O/TAI/4/99	DQ164976	TAI99-04	638	588	1	92.16	7.84	SEA	Mya-98
59	O/MAY/2/2001	HQ116185	MAY01-02	637	587	2	92.15	7.85	SEA	Mya-98
60	O/MAY/4/2001	HQ116186	MAY01-04	637	587	2	92.15	7.85	SEA	Mya-98
61	O/MYA/6/2002	HQ116223	MYA02-06	639	587	0	91.86	8.14	SEA	Mya-98
62	O/MYA/7/2002	DQ164928	MYA02-07	639	587	0	91.86	8.14	SEA	Mya-98
63	O/TAI/8/2007	HQ116244	TAI07-08	639	587	0	91.86	8.14	SEA	Mya-98
64	O/MYA/2/2006	HQ116225	MYA06-02	639	586	0	91.71	8.29	SEA	Mya-98
65	O/MYA/4/2004	WRLFMD	MYA04-04	639	586	0	91.71	8.29	SEA	Mya-98
66	O/MYA/5/04*	TRRL	MYA04-AE	639	586	0	91.71	8.29	SEA	Mya-98
67	O/MYA/3/2009	WRLFMD	MYA09-03	639	585	0	91.55	8.45	SEA	Mya-98
68	O/LAO/7/2003	EU667448	LAO03-07	639	584	0	91.39	8.61	SEA	Mya-98
69	O/TAI/8/2004	HQ116233	TAI04-08	639	583	0	91.24	8.76	SEA	Mya-98
70	O/LAO/2/2007	HQ116176	LAO07-02	639	582	0	91.08	8.92	SEA	Mya-98
71	O/LAO/4/2007	HQ116178	LAO07-04	639	582	0	91.08	8.92	SEA	Mya-98
72	O/MYA/3/2002	HQ116220	MYA02-03	639	582	0	91.08	8.92	SEA	Mya-98
73	O/TAI/13/2007	HQ116248	TAI07-13	639	582	0	91.08	8.92	SEA	Mya-98
74	O/TAI/3/2003	DQ164981	TAI03-03	639	582	0	91.08	8.92	SEA	Mya-98
75	O/TAI/37/04*	TRRL	TAI04-AC	639	582	0	91.08	8.92	SEA	Mya-98
76	O/TAI/4/2007	HQ116240	TAI07-04	639	582	0	91.08	8.92	SEA	Mya-98
77	O/LAO/4/2001	DQ164907	LAO01-04	639	581	0	90.92	9.08	SEA	Mya-98
78	O/MAY/1/2005	HQ116196	MAY05-01	639	581	0	90.92	9.08	SEA	Mya-98
79	O/MAY/2/2005	HQ116197	MAY05-02	639	581	0	90.92	9.08	SEA	Mya-98
80	O/TAI/10/2005	HQ116239	TAI05-10	639	581	0	90.92	9.08	SEA	Mya-98
81	O/TAI/5/2007	HQ116241	TAI07-05	639	581	0	90.92	9.08	SEA	Mya-98
82	O/TAI/9/2005	HQ116238	TAI05-09	639	581	0	90.92	9.08	SEA	Mya-98
83	O/MAY/5/2001	DQ164921	MAY01-05	639	580	0	90.77	9.23	SEA	Mya-98
84	O/MAY/5/2006	HQ116207	MAY06-05	639	580	0	90.77	9.23	SEA	Mya-98
85	O/MAY/6/2001	DQ164922	MAY01-06	639	580	0	90.77	9.23	SEA	Mya-98
86	O/TAI/8/2005	HQ116237	TAI05-08	639	580	0	90.77	9.23	SEA	Mya-98
87	O/TAI/9/2007	HQ116245	TAI07-09	639	580	0	90.77	9.23	SEA	Mya-98
88	O/LAO/2/2001	EU667445	LAO01-02	639	579	0	90.61	9.39	SEA	Mya-98
89	O/LAO/1/2007	HQ116175	LAO07-01	639	578	0	90.45	9.55	SEA	Mya-98
90	O/LAO/3/2007	HQ116177	LAO07-03	639	578	0	90.45	9.55	SEA	Mya-98
91	O/TAI/1/2005	HQ116234	TAI05-01	639	578	0	90.45	9.55	SEA	Mya-98
92	O/TAI/14/2007	HQ116249	TAI07-14	639	578	0	90.45	9.55	SEA	Mya-98
93	O/TAI 5/08*	TRRL	TAI08-AA	639	578	0	90.45	9.55	SEA	Mya-98
94	O/LAO/1/2008	HQ116179	LAO08-01	639	577	0	90.30	9.70	SEA	Mya-98
95	O/MAY/4/2007	HQ116208	MAY07-04	639	577	0	90.30	9.70	SEA	Mya-98
96	O/MAY/7/2007	HQ116211	MAY07-07	639	577	0	90.30	9.70	SEA	Mya-98
97	O/TAI/6/2007	HQ116242	TAI07-06	639	577	0	90.30	9.70	SEA	Mya-98
98	O/TAI/7/2007	HQ116243	TAI07-07	639	577	0	90.30	9.70	SEA	Mya-98
99	O/VIT/6/2005	HQ116279	VIT05-06	639	577	0	90.30	9.70	SEA	Mya-98
100	O/LAO/1/2003	EU667446	LAO03-01	639	576	0	90.14	9.86	SEA	Mya-98
101	O/MAY/6/2007	HQ116210	MAY07-06	639	576	0	90.14	9.86	SEA	Mya-98
102	O/TAI/12/2008	HQ116255	TAI08-12	639	576	0	90.14	9.86	SEA	Mya-98
103	O/TAI/18/2009	HQ116265	TAI09-18	639	576	0	90.14	9.86	SEA	Mya-98
104	O/TAI/2/2008	HQ116250	TAI08-02	639	576	0	90.14	9.86	SEA	Mya-98
105	O/TAI/3/2008	HQ116251	TAI08-03	639	576	0	90.14	9.86	SEA	Mya-98
106	O/TAI/7/2008	HQ116254	TAI08-07	639	576	0	90.14	9.86	SEA	Mya-98

	Virus name	Source†	Filename	Compared	Matched	Ambig	%Identity	%Difference	Topotype	Strain
107	O/LAO/35/2003	EU667450	LAO03-35	639	575	0	89.98	10.02	SEA	Mya-98
108	O/MAY/5/2007	HQ116209	MAY07-05	639	575	0	89.98	10.02	SEA	Mya-98
109	O/MAY/9/2007	HQ116212	MAY07-09	639	575	0	89.98	10.02	SEA	Mya-98
110	O/TAI/12/2007	HQ116247	TAI07-12	639	575	0	89.98	10.02	SEA	Mya-98
111	O/TAI/21/2009	HQ116268	TAI09-21	639	575	0	89.98	10.02	SEA	Mya-98
112	O/TAI/5/2008	HQ116252	TAI08-05	639	575	0	89.98	10.02	SEA	Mya-98
113	O/TAI 44/08*	TRRL	TAI08-AF	639	575	0	89.98	10.02	SEA	Mya-98
114	O/TAI 7/08*	TRRL	TAI08-AB	639	575	0	89.98	10.02	SEA	Mya-98
115	O/LAO/2/2008	HQ116180	LAO08-02	639	574	0	89.83	10.17	SEA	Mya-98
116	O/LAO/3/2008	HQ116181	LAO08-03	639	574	0	89.83	10.17	SEA	Mya-98
117	O/MYA/2/2008	HQ116226	MYA08-02	639	574	0	89.83	10.17	SEA	Mya-98
118	O/TAI/2/2009	HQ116257	TAI09-02	639	574	0	89.83	10.17	SEA	Mya-98
119	O/TAI/25/2009	HQ116272	TAI09-25	639	574	0	89.83	10.17	SEA	Mya-98
120	O/TAI/3/2009	HQ116258	TAI09-03	639	574	0	89.83	10.17	SEA	Mya-98
121	O/TAI 60/08*	TRRL	TAI08-AH	639	574	0	89.83	10.17	SEA	Mya-98
122	O/MAY/5/2009	HQ116213	MAY09-05	639	573	0	89.67	10.33	SEA	Mya-98
123	O/MAY/6/2009	HQ116214	MAY09-06	639	573	0	89.67	10.33	SEA	Mya-98
124	O/MAY/7/2009	HQ116215	MAY09-07	639	573	0	89.67	10.33	SEA	Mya-98
125	O/MYA/1/2009	WRLFMD	MYA09-01	639	573	0	89.67	10.33	SEA	Mya-98
126	O/MYA/12/2009	WRLFMD	MYA09-12	639	573	0	89.67	10.33	SEA	Mya-98
127	O/MYA/3/2008	HQ116227	MYA08-03	639	573	0	89.67	10.33	SEA	Mya-98
128	O/MYA/9/2009	HQ116230	MYA09-09	639	573	0	89.67	10.33	SEA	Mya-98
129	O/TAI/10/2007	HQ116246	TAI07-10	639	573	0	89.67	10.33	SEA	Mya-98
130	O/TAI/20/2009	HQ116267	TAI09-20	639	573	0	89.67	10.33	SEA	Mya-98
131	O/TAI/6/2008	HQ116253	TAI08-06	639	573	0	89.67	10.33	SEA	Mya-98
132	O/TAI 41/08*	TRRL	TAI08-AD	639	573	0	89.67	10.33	SEA	Mya-98
133	O/TAI 75/08*	TRRL	TAI08-AI	639	573	0	89.67	10.33	SEA	Mya-98
134	O/LAO/1/2009	HQ116182	LAO09-01	639	572	0	89.51	10.49	SEA	Mya-98
135	O/TAI/1/2010	WRLFMD	TAI10-01	639	572	0	89.51	10.49	SEA	Mya-98
136	O/TAI/24/2009	HQ116271	TAI09-24	639	572	0	89.51	10.49	SEA	Mya-98
137	O/TAI/26/2009	WRLFMD	TAI09-26	639	572	0	89.51	10.49	SEA	Mya-98
138	O/TAI/4/2009	HQ116259	TAI09-04	639	572	0	89.51	10.49	SEA	Mya-98
139	O/TAI/4/2010	WRLFMD	TAI10-04	639	572	0	89.51	10.49	SEA	Mya-98
140	O/TAI 40/08*	TRRL	TAI08-AC	639	572	0	89.51	10.49	SEA	Mya-98
141	O/VIT/5/2010	WRLFMD	VIT10-05	639	572	0	89.51	10.49	SEA	Mya-98
142	O/MAY/8/2009	HQ116216	MAY09-08	639	571	0	89.36	10.64	SEA	Mya-98
143	O/TAI/2/2010	WRLFMD	TAI10-02	639	571	0	89.36	10.64	SEA	Mya-98
144	O/TAI/27/2009	WRLFMD	TAI09-27	639	571	0	89.36	10.64	SEA	Mya-98
145	O/TAI/5/2010	WRLFMD	TAI10-05	639	571	0	89.36	10.64	SEA	Mya-98
146	O/TAI/6/2010	WRLFMD	TAI10-06	639	571	0	89.36	10.64	SEA	Mya-98
147	O/TAI 55/08*	TRRL	TAI08-AG	639	571	0	89.36	10.64	SEA	Mya-98
148	O/TAI/3/2010	WRLFMD	TAI10-03	639	570	0	89.20	10.80	SEA	Mya-98
149	O/VIT/7/2006	HQ116290	VIT06-07	639	570	0	89.20	10.80	SEA	Mya-98
150	O/MAY/20/2009	HQ116218	MAY09-20	639	569	0	89.05	10.95	SEA	Mya-98
151	O/MAY/21/2009	HQ116219	MAY09-21	639	569	0	89.05	10.95	SEA	Mya-98
152	O/TAI/1/2009	HQ116256	TAI09-01	639	569	0	89.05	10.95	SEA	Mya-98
153	O/TAI/13/2009	HQ116261	TAI09-13	639	569	0	89.05	10.95	SEA	Mya-98
154	O/TAI/15/2009	HQ116262	TAI09-15	639	569	0	89.05	10.95	SEA	Mya-98
155	O/TAI/16/2009	HQ116263	TAI09-16	639	569	0	89.05	10.95	SEA	Mya-98
156	O/TAI/17/2009	HQ116264	TAI09-17	639	569	0	89.05	10.95	SEA	Mya-98
157	O/TAI/189/87*	TRRL	TAI87-AC	639	569	0	89.05	10.95	SEA	Mya-98
158	O/TAI 43/08*	TRRL	TAI08-AE	639	569	0	89.05	10.95	SEA	Mya-98
159	O/TAI/21/05*	TRRL	TAI05-AC	639	568	0	88.89	11.11	SEA	Mya-98
160	O/VIT/5/2006	HQ116288	VIT06-05	639	568	0	88.89	11.11	SEA	Mya-98

	Virus name	Source†	Filename	Compared	Matched	Ambig	%Identity	%Difference	Topotype	Strain
161	O/MYA 1/08*	TRRL	MYA08-AA	638	567	1	88.87	11.13	SEA	Mya-98
162	O/MOG/CO3/2010*	ARRIAH	MOG10-AA	639	567	0	88.73	11.27	SEA	Mya-98
163	O/RUS/Aug 2010	ARRIAH	RUS10-AB	639	567	0	88.73	11.27	SEA	Mya-98
164	O/TAI/12/2009	HQ116260	TAI09-12	639	567	0	88.73	11.27	SEA	Mya-98
165	O/TAI/23/2009	HQ116270	TAI09-23	639	567	0	88.73	11.27	SEA	Mya-98
166	O/MOG/1/2010	WRLFMD	MOG10-01	639	566	0	88.58	11.42	SEA	Mya-98
167	O/TAI/19/2009	HQ116266	TAI09-19	639	566	0	88.58	11.42	SEA	Mya-98
168	O/VIT/2/2010	WRLFMD	VIT10-02	639	566	0	88.58	11.42	SEA	Mya-98
169	O/VIT/4/2006	HQ116287	VIT06-04	639	566	0	88.58	11.42	SEA	Mya-98
170	O/MOG/7/2010	WRLFMD	MOG10-07	639	565	0	88.42	11.58	SEA	Mya-98
171	O/MOG/77/2010*	ARRIAH	MOG10-AD	639	565	0	88.42	11.58	SEA	Mya-98
172	O/MOG/3/2010	WRLFMD	MOG10-03	639	564	0	88.26	11.74	SEA	Mya-98
173	O/MOG/4/2010	WRLFMD	MOG10-04	639	564	0	88.26	11.74	SEA	Mya-98
174	O/MOG/56/2010*	ARRIAH	MOG10-AB	639	564	0	88.26	11.74	SEA	Mya-98
175	O/MOG/6/2010	WRLFMD	MOG10-06	639	564	0	88.26	11.74	SEA	Mya-98
176	O/MOG/66/2010*	ARRIAH	MOG10-AC	639	564	0	88.26	11.74	SEA	Mya-98
177	O/MYA/1/2010	WRLFMD	MYA10-01	639	564	0	88.26	11.74	SEA	Unnamed
178	O/MYA/2/2010	WRLFMD	MYA10-02	639	564	0	88.26	11.74	SEA	Unnamed
179	O/VIT/6/2006	HQ116289	VIT06-06	639	564	0	88.26	11.74	SEA	Mya-98
180	O/MOG/2/2010	WRLFMD	MOG10-02	639	563	0	88.11	11.89	SEA	Mya-98
181	O/MOG/5/2010	WRLFMD	MOG10-05	639	563	0	88.11	11.89	SEA	Mya-98
182	O/MOG/9/2010	WRLFMD	MOG10-09	639	562	0	87.95	12.05	SEA	Mya-98

\*, not a WRLFMD reference number.

†, public sequence database accession number or laboratory of origin:

ARRIAH, FGI All-Russian Research Institute for Animal Health, Vladimir, Russian Federation.

NVRQS, National Veterinary Research and Quarantine Service, Anyang, Gyeonggi, Republic of Korea.

TRRL, Thailand Regional Reference Laboratory, Pakchong, Thailand.

WRLFMD, World Reference Laboratory for FMD, IAH, Pirbright, UK.