



**INSTITUTE FOR ANIMAL HEALTH**

Acting Director: Professor David Paton MA, VetMB, PhD, MRCVS

PIRBRIGHT LABORATORY

Ash Road,

Pirbright,

Surrey,

GU24 0NF

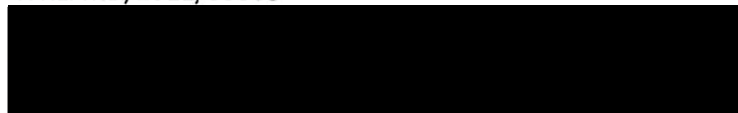
Intn Tel: 00 44 1483 232441

Tel: 01483 232441 Fax: 01483 232621

## FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2011/00005

Sender Details:



Date Received: 20<sup>th</sup> January 2011

Country of Origin: Malaysia

Date Reported: 24<sup>th</sup> February 2011

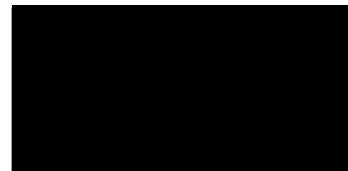
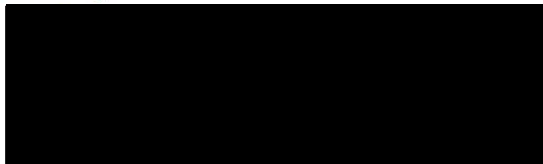
Dear Dr. Norilido Othman,

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:

28/2/11



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: 24 February 2011

FMDV type O (only genome detected\*)

Country: Malaysia

Period: 2009-2010

No. of samples: 17

BATCH: WRLFMD/2011/00005

\*, except for MAY/12/2010 in which type O virus antigen was detected by ELISA.



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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: MAY/22/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 2775/09 Location: KG Padang, Alor Setar, Kedau, Malaysia Date collected: 29/09/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-22.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/13/2009 (HQ116261)	TAI09-13	639	639	0	100.00	0.00	SEA	Mya-98
2	O/TAI/15/2009 (HQ116262)	TAI09-15	639	639	0	100.00	0.00	SEA	Mya-98
3	O/TAI/16/2009 (HQ116263)	TAI09-16	639	639	0	100.00	0.00	SEA	Mya-98
4	O/TAI/17/2009 (HQ116264)	TAI09-17	639	639	0	100.00	0.00	SEA	Mya-98
5	O/MAY/20/2009 (HQ116218)	MAY09-20	639	637	0	99.69	0.31	SEA	Mya-98
6	O/MAY/21/2009 (HQ116219)	MAY09-21	639	637	0	99.69	0.31	SEA	Mya-98
7	O/TAI/12/2009 (HQ116260)	TAI09-12	639	637	0	99.69	0.31	SEA	Mya-98
8	O/MAY/27/2009	MAY09-27	639	637	0	99.69	0.31	SEA	Mya-98
9	O/MAY/29/2009	MAY09-29	639	637	0	99.69	0.31	SEA	Mya-98
10	O/TAI/19/2009 (HQ116266)	TAI09-19	639	636	0	99.53	0.47	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	586	0	91.71	8.29	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	564	0	88.26	11.74	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	548	0	85.76	14.24	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	548	0	85.76	14.24	ME-SA	Pak-98
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	544	0	85.13	14.87	ME-SA	unnamed
6	O/CAM/3/98 (AJ294910)	CAM98-03	639	543	0	84.98	15.02	SEA	Cam-94
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	541	0	84.66	15.34	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>TER-08</sup>
9	O/IND/53/79 (AF292107)	IND79A53	639	539	0	84.35	15.65	ME-SA	unnamed
10	O/IRN/31/2009	IRN09-31	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: MAY/23/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3480/09 1 Location: Ladang Lam Sam, Johar Bahru, Johor, Malaysia Date collected: 02/12/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-23.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MAY/24/2009	MAY09-24	639	638	0	99.84	0.16	SEA	Mya-98
2	O/MAY/27/2009	MAY09-27	639	636	0	99.53	0.47	SEA	Mya-98
3	O/TAI/13/2009 (HQ116261)	TAI09-13	639	634	0	99.22	0.78	SEA	Mya-98
4	O/TAI/15/2009 (HQ116262)	TAI09-15	639	634	0	99.22	0.78	SEA	Mya-98
5	O/TAI/16/2009 (HQ116263)	TAI09-16	639	634	0	99.22	0.78	SEA	Mya-98
6	O/TAI/17/2009 (HQ116264)	TAI09-17	639	634	0	99.22	0.78	SEA	Mya-98
7	O/MAY/22/2009	MAY09-22	639	634	0	99.22	0.78	SEA	Mya-98
8	O/MAY/20/2009 (HQ116218)	MAY09-20	639	632	0	98.90	1.10	SEA	Mya-98
9	O/MAY/21/2009 (HQ116219)	MAY09-21	639	632	0	98.90	1.10	SEA	Mya-98
10	O/TAI/12/2009 (HQ116260)	TAI09-12	639	632	0	98.90	1.10	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	582	0	91.08	8.92	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	561	0	87.79	12.21	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	547	0	85.60	14.40	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	546	0	85.45	14.55	ME-SA	Pak-98
5	O/CAM/3/98 (AJ294910)	CAM98-03	639	545	0	85.29	14.71	SEA	Cam-94
6	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	543	0	84.98	15.02	ME-SA	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	639	539	0	84.35	15.65	ME-SA	unnamed
8	O/TUR/264/2009* (FMDI)	TUR09-AK	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>SAN-09</sup>
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/IRN/31/2009	IRN09-31	639	537	0	84.04	15.96	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: MAY/24/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3480/09 2 Location: Ladang Lam Sam, Johar Bahru, Johor, Malaysia Date collected: 02/12/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-24.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MAY/23/2009	MAY09-23	639	638	0	99.84	0.16	SEA	Mya-98
2	O/MAY/27/2009	MAY09-27	639	637	0	99.69	0.31	SEA	Mya-98
3	O/TAI/13/2009 (HQ116261)	TAI09-13	639	635	0	99.37	0.63	SEA	Mya-98
4	O/TAI/15/2009 (HQ116262)	TAI09-15	639	635	0	99.37	0.63	SEA	Mya-98
5	O/TAI/16/2009 (HQ116263)	TAI09-16	639	635	0	99.37	0.63	SEA	Mya-98
6	O/TAI/17/2009 (HQ116264)	TAI09-17	639	635	0	99.37	0.63	SEA	Mya-98
7	O/MAY/22/2009	MAY09-22	639	635	0	99.37	0.63	SEA	Mya-98
8	O/MAY/20/2009 (HQ116218)	MAY09-20	639	633	0	99.06	0.94	SEA	Mya-98
9	O/MAY/21/2009 (HQ116219)	MAY09-21	639	633	0	99.06	0.94	SEA	Mya-98
10	O/TAI/12/2009 (HQ116260)	TAI09-12	639	633	0	99.06	0.94	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	583	0	91.24	8.76	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	561	0	87.79	12.21	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	547	0	85.60	14.40	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	546	0	85.45	14.55	ME-SA	Pak-98
5	O/CAM/3/98 (AJ294910)	CAM98-03	639	544	0	85.13	14.87	SEA	Cam-94
6	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	543	0	84.98	15.02	ME-SA	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	639	539	0	84.35	15.65	ME-SA	unnamed
8	O/TUR/264/2009* (FMDI)	TUR09-AK	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>SAN-09</sup>
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/IRN/31/2009	IRN09-31	639	537	0	84.04	15.96	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: MAY/25/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3556/09 1 Location: Cahaya Baru, Masai, Johor Baheu, Johor, Malaysia Date collected: 09/12/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-25.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MAY/26/2009	MAY09-26	639	639	0	100.00	0.00	SEA	Mya-98
2	O/MAY/20/2009 (HQ116218)	MAY09-20	639	636	0	99.53	0.47	SEA	Mya-98
3	O/MAY/21/2009 (HQ116219)	MAY09-21	639	636	0	99.53	0.47	SEA	Mya-98
4	O/TAI/13/2009 (HQ116261)	TAI09-13	639	636	0	99.53	0.47	SEA	Mya-98
5	O/TAI/15/2009 (HQ116262)	TAI09-15	639	636	0	99.53	0.47	SEA	Mya-98
6	O/TAI/16/2009 (HQ116263)	TAI09-16	639	636	0	99.53	0.47	SEA	Mya-98
7	O/TAI/17/2009 (HQ116264)	TAI09-17	639	636	0	99.53	0.47	SEA	Mya-98
8	O/MAY/22/2009	MAY09-22	639	636	0	99.53	0.47	SEA	Mya-98
9	O/MAY/29/2009	MAY09-29	639	636	0	99.53	0.47	SEA	Mya-98
10	O/TAI/19/2009 (HQ116266)	TAI09-19	639	635	0	99.37	0.63	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	585	0	91.55	8.45	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	563	0	88.11	11.89	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	547	0	85.60	14.40	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	547	0	85.60	14.40	ME-SA	Pak-98
5	O/CAM/3/98 (AJ294910)	CAM98-03	639	544	0	85.13	14.87	SEA	Cam-94
6	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	543	0	84.98	15.02	ME-SA	unnamed
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>TER-08</sup>
9	O/IND/53/79 (AF292107)	IND79A53	639	538	0	84.19	15.81	ME-SA	unnamed
10	O/IRN/31/2009	IRN09-31	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O WRLFMD Ref No: MAY/26/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3556/09 2 Location: Cahaya Baru, Masai, Johor Baheu, Johor, Malaysia Date collected: 09/12/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-26.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
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Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
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2	O/MAY/20/2009 (HQ116218)	MAY09-20	639	636	0	99.53	0.47	SEA	Mya-98
3	O/MAY/21/2009 (HQ116219)	MAY09-21	639	636	0	99.53	0.47	SEA	Mya-98
4	O/TAI/13/2009 (HQ116261)	TAI09-13	639	636	0	99.53	0.47	SEA	Mya-98
5	O/TAI/15/2009 (HQ116262)	TAI09-15	639	636	0	99.53	0.47	SEA	Mya-98
6	O/TAI/16/2009 (HQ116263)	TAI09-16	639	636	0	99.53	0.47	SEA	Mya-98
7	O/TAI/17/2009 (HQ116264)	TAI09-17	639	636	0	99.53	0.47	SEA	Mya-98
8	O/MAY/22/2009	MAY09-22	639	636	0	99.53	0.47	SEA	Mya-98
9	O/MAY/29/2009	MAY09-29	639	636	0	99.53	0.47	SEA	Mya-98
10	O/TAI/19/2009 (HQ116266)	TAI09-19	639	635	0	99.37	0.63	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
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2	O/TAI/189/87* (TRRL)	TAI87-AC	639	563	0	88.11	11.89	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	547	0	85.60	14.40	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	547	0	85.60	14.40	ME-SA	Pak-98
5	O/CAM/3/98 (AJ294910)	CAM98-03	639	544	0	85.13	14.87	SEA	Cam-94
6	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	543	0	84.98	15.02	ME-SA	unnamed
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>TER-08</sup>
9	O/IND/53/79 (AF292107)	IND79A53	639	538	0	84.19	15.81	ME-SA	unnamed
10	O/IRN/31/2009	IRN09-31	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v3.11

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 23/02/2011
WRLFMD Ref No: MAY/27/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00005	Checked by: V. Mioulet
Sender Ref: MVKKB 3557/09	
Location: Rengoam, Kuang, Johor, Malaysia	Topotype: SEA
Date collected: 09/12/2009	Genotype/strain: Mya-98
Date received by WRLFMD: 20/01/2011	Sequence filename: MAY09-27.SEQ
Date received for sequencing: 10/02/2011	Date sequence last updated: 11/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: epi. susp.	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2666
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 34 days
	Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/13/2009 (HQ116261)	TAI09-13	639	637	0	99.69	0.31	SEA	Mya-98
2	O/TAI/15/2009 (HQ116262)	TAI09-15	639	637	0	99.69	0.31	SEA	Mya-98
3	O/TAI/16/2009 (HQ116263)	TAI09-16	639	637	0	99.69	0.31	SEA	Mya-98
4	O/TAI/17/2009 (HQ116264)	TAI09-17	639	637	0	99.69	0.31	SEA	Mya-98
5	O/MAY/22/2009	MAY09-22	639	637	0	99.69	0.31	SEA	Mya-98
6	O/MAY/24/2009	MAY09-24	639	637	0	99.69	0.31	SEA	Mya-98
7	O/MAY/23/2009	MAY09-23	639	636	0	99.53	0.47	SEA	Mya-98
8	O/MAY/20/2009 (HQ116218)	MAY09-20	639	635	0	99.37	0.63	SEA	Mya-98
9	O/MAY/21/2009 (HQ116219)	MAY09-21	639	635	0	99.37	0.63	SEA	Mya-98
10	O/TAI/12/2009 (HQ116260)	TAI09-12	639	635	0	99.37	0.63	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	585	0	91.55	8.45	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	563	0	88.11	11.89	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	547	0	85.60	14.40	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	547	0	85.60	14.40	ME-SA	Pak-98
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	543	0	84.98	15.02	ME-SA	unnamed
6	O/CAM/3/98 (AJ294910)	CAM98-03	639	542	0	84.82	15.18	SEA	Cam-94
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/IND/53/79 (AF292107)	IND79A53	639	539	0	84.35	15.65	ME-SA	unnamed
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/IRN/31/2009	IRN09-31	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MAY/28/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3657/09 Location: Brookland, Tanjung 12, Kuala Langat, Selangor, Malaysia Date collected: 17/12/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet  Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-28.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/25/2009 (HQ116272)	TAI09-25	639	638	0	99.84	0.16	SEA	Mya-98
2	O/MAY/3/2010	MAY10-03	639	638	0	99.84	0.16	SEA	Mya-98
3	O/TAI/20/2009 (HQ116267)	TAI09-20	639	637	0	99.69	0.31	SEA	Mya-98
4	O/TAI/21/2009 (HQ116268)	TAI09-21	639	637	0	99.69	0.31	SEA	Mya-98
5	O/MAY/2/2010	MAY10-02	639	637	0	99.69	0.31	SEA	Mya-98
6	O/TAI/1/2010	TAI10-01	639	636	0	99.53	0.47	SEA	Mya-98
7	O/TAI/24/2009 (HQ116271)	TAI09-24	639	636	0	99.53	0.47	SEA	Mya-98
8	O/TAI/26/2009	TAI09-26	639	636	0	99.53	0.47	SEA	Mya-98
9	O/TAI/7/2007 (HQ116243)	TAI07-07	639	629	0	98.44	1.56	SEA	Mya-98
10	O/MAY/6/2007 (HQ116210)	MAY07-06	639	628	0	98.28	1.72	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	597	0	93.43	6.57	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	568	0	88.89	11.11	SEA	unnamed
3	O/CAM/3/98 (AJ294910)	CAM98-03	639	543	0	84.98	15.02	SEA	Cam-94
4	O/IND/53/79 (AF292107)	IND79A53	639	543	0	84.98	15.02	ME-SA	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	543	0	84.98	15.02	ME-SA	unnamed
6	O/IRN/31/2009	IRN09-31	639	543	0	84.98	15.02	ME-SA	PanAsia-2 <sup>FAR-09</sup>
7	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	543	0	84.98	15.02	ME-SA	unnamed
8	O/PAK/16/2003 (DQ165068)	PAK03-16	639	542	0	84.82	15.18	ME-SA	Pak-98
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	542	0	84.82	15.18	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/TUR/264/2009* (FMDI)	TUR09-AK	639	541	0	84.66	15.34	ME-SA	PanAsia-2 <sup>SAN-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MAY/29/2009 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3707/09 Location: Kampong BT 10A, Labu, Negeri Sembilan, Malaysia Date collected: 21/12/2009 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY09-29.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MAY/20/2009 (HQ116218)	MAY09-20	639	637	0	99.69	0.31	SEA	Mya-98
2	O/MAY/21/2009 (HQ116219)	MAY09-21	639	637	0	99.69	0.31	SEA	Mya-98
3	O/TAI/13/2009 (HQ116261)	TAI09-13	639	637	0	99.69	0.31	SEA	Mya-98
4	O/TAI/15/2009 (HQ116262)	TAI09-15	639	637	0	99.69	0.31	SEA	Mya-98
5	O/TAI/16/2009 (HQ116263)	TAI09-16	639	637	0	99.69	0.31	SEA	Mya-98
6	O/TAI/17/2009 (HQ116264)	TAI09-17	639	637	0	99.69	0.31	SEA	Mya-98
7	O/MAY/22/2009	MAY09-22	639	637	0	99.69	0.31	SEA	Mya-98
8	O/TAI/19/2009 (HQ116266)	TAI09-19	639	636	0	99.53	0.47	SEA	Mya-98
9	O/VIT/2/2010	VIT10-02	639	636	0	99.53	0.47	SEA	Mya-98
10	O/MAY/25/2009	MAY09-25	639	636	0	99.53	0.47	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	584	0	91.39	8.61	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	562	0	87.95	12.05	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	548	0	85.76	14.24	ME-SA	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	548	0	85.76	14.24	ME-SA	Pak-98
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	544	0	85.13	14.87	ME-SA	unnamed
6	O/CAM/3/98 (AJ294910)	CAM98-03	639	543	0	84.98	15.02	SEA	Cam-94
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	541	0	84.66	15.34	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>TER-08</sup>
9	O/IRN/31/2009	IRN09-31	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>FAR-09</sup>
10	O/IND/53/79 (AF292107)	IND79A53	639	538	0	84.19	15.81	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 23/02/2011
WRLFMD Ref No: MAY/30/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00005	Checked by: V. Mioulet
Sender Ref: MVKKB 3856/09	
Location: Jalan Bota Tronoh, Perak, Malaysia	Topotype: SEA
Date collected: 30/12/2009	Genotype/strain: Mya-98
Date received by WRLFMD: 20/01/2011	Sequence filename: MAY09-30.SEQ
Date received for sequencing: 10/02/2011	Date sequence last updated: 11/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: epi. susp.	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2666
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 34 days
	Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/NCVD-19/2010 (NVRQS)	VIT10-AE	639	632	0	98.9	1.1	SEA	Mya-98
2	O/VIT/NCVD-20/2010 (NVRQS)	VIT10-AF	639	632	0	98.9	1.1	SEA	Mya-98
3	O/TAI/22/2009 (HQ116269)	TAI09-22	639	631	0	98.75	1.25	SEA	Mya-98
4	O/VIT/NCVD-17/2010 (NVRQS)	VIT10-AC	639	631	0	98.75	1.25	SEA	Mya-98
5	O/VIT/NCVD-18/2010 (NVRQS)	VIT10-AD	639	631	0	98.75	1.25	SEA	Mya-98
6	O/Ganghwa/SKR/2010 (NVRQS)	SKR10-AB	639	627	0	98.12	1.88	SEA	Mya-98
7	O/MYA/5/2009 (HQ116228)	MYA09-05	639	627	0	98.12	1.88	SEA	Mya-98
8	O/MYA/6/2009 (HQ116229)	MYA09-06	639	627	0	98.12	1.88	SEA	Mya-98
9	O/HKN/13/2010	HKN10-13	639	626	0	97.97	2.03	SEA	Mya-98
10	O/HKN/14/2010	HKN10-14	639	626	0	97.97	2.03	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	596	0	93.27	6.73	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	575	0	89.98	10.02	SEA	unnamed
3	O/PAK/16/2010	PAK10-16	639	545	0	85.29	14.71	ME-SA	PanAsia-2 <sup>PUN-10</sup>
4	O/IND/R2/75* (AF204276)	IND75--A	639	544	0	85.13	14.87	ME-SA	unnamed
5	O/CAM/3/98 (AJ294910)	CAM98-03	639	543	0	84.98	15.02	SEA	Cam-94
6	O/IRN/8/2005	IRN05-08	639	543	0	84.98	15.02	ME-SA	PanAsia-2
7	O/TUR/257/2008* (FMDI)	TUR08-AD	639	543	0	84.98	15.02	ME-SA	PanAsia-2 <sup>TER-08</sup>
8	O/TUR/264/2009* (FMDI)	TUR09-AK	639	542	0	84.82	15.18	ME-SA	PanAsia-2 <sup>SAN-09</sup>
9	O/ETH/3/2004 (FJ798109)	ETH04-03	639	540	0	84.51	15.49	EA-3	unnamed
10	O/IRN/88/2009	IRN09-88	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>ANT-10</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MAY/2/2010 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 61/10 Location: TMN Tambaka, Melaka Tengah, Melaka, Malaysia Date collected: 07/01/2010 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY10-02.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/25/2009 (HQ116272)	TAI09-25	639	638	0	99.84	0.16	SEA	Mya-98
2	O/MAY/3/2010	MAY10-03	639	638	0	99.84	0.16	SEA	Mya-98
3	O/TAI/20/2009 (HQ116267)	TAI09-20	639	637	0	99.69	0.31	SEA	Mya-98
4	O/TAI/21/2009 (HQ116268)	TAI09-21	639	637	0	99.69	0.31	SEA	Mya-98
5	O/MAY/28/2009	MAY09-28	639	637	0	99.69	0.31	SEA	Mya-98
6	O/TAI/24/2009 (HQ116271)	TAI09-24	639	636	0	99.53	0.47	SEA	Mya-98
7	O/TAI/26/2009	TAI09-26	639	636	0	99.53	0.47	SEA	Mya-98
8	O/TAI/1/2010	TAI10-01	639	634	0	99.22	0.78	SEA	Mya-98
9	O/TAI/7/2007 (HQ116243)	TAI07-07	639	629	0	98.44	1.56	SEA	Mya-98
10	O/MAY/6/2007 (HQ116210)	MAY07-06	639	628	0	98.28	1.72	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	595	0	93.11	6.89	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	566	0	88.58	11.42	SEA	unnamed
3	O/CAM/3/98 (AJ294910)	CAM98-03	639	541	0	84.66	15.34	SEA	Cam-94
4	O/IND/53/79 (AF292107)	IND79A53	639	541	0	84.66	15.34	ME-SA	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	541	0	84.66	15.34	ME-SA	unnamed
6	O/IRN/31/2009	IRN09-31	639	541	0	84.66	15.34	ME-SA	PanAsia-2 <sup>FAR-09</sup>
7	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	541	0	84.66	15.34	ME-SA	unnamed
8	O/PAK/16/2003 (DQ165068)	PAK03-16	639	540	0	84.51	15.49	ME-SA	Pak-98
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/TUR/264/2009* (FMDI)	TUR09-AK	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>SAN-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MAY/3/2010 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 575/10 Location: Kabueit Banjar, Ledang, Johor, Malaysia Date collected: 24/02/2010 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 10/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY10-03.SEQ Date sequence last updated: 11/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/25/2009 (HQ116272)	TAI09-25	639	639	0	100.00	0.00	SEA	Mya-98
2	O/TAI/20/2009 (HQ116267)	TAI09-20	639	638	0	99.84	0.16	SEA	Mya-98
3	O/TAI/21/2009 (HQ116268)	TAI09-21	639	638	0	99.84	0.16	SEA	Mya-98
4	O/MAY/2/2010	MAY10-02	639	638	0	99.84	0.16	SEA	Mya-98
5	O/MAY/28/2009	MAY09-28	639	638	0	99.84	0.16	SEA	Mya-98
6	O/TAI/24/2009 (HQ116271)	TAI09-24	639	637	0	99.69	0.31	SEA	Mya-98
7	O/TAI/26/2009	TAI09-26	639	637	0	99.69	0.31	SEA	Mya-98
8	O/TAI/1/2010	TAI10-01	639	635	0	99.37	0.63	SEA	Mya-98
9	O/TAI/7/2007 (HQ116243)	TAI07-07	639	630	0	98.59	1.41	SEA	Mya-98
10	O/MAY/6/2007 (HQ116210)	MAY07-06	639	629	0	98.44	1.56	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	596	0	93.27	6.73	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	567	0	88.73	11.27	SEA	unnamed
3	O/CAM/3/98 (AJ294910)	CAM98-03	639	542	0	84.82	15.18	SEA	Cam-94
4	O/IND/53/79 (AF292107)	IND79A53	639	542	0	84.82	15.18	ME-SA	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	542	0	84.82	15.18	ME-SA	unnamed
6	O/IRN/31/2009	IRN09-31	639	542	0	84.82	15.18	ME-SA	PanAsia-2 <sup>FAR-09</sup>
7	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	542	0	84.82	15.18	ME-SA	unnamed
8	O/PAK/16/2003 (DQ165068)	PAK03-16	639	541	0	84.66	15.34	ME-SA	Pak-98
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	541	0	84.66	15.34	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/TUR/264/2009* (FMDI)	TUR09-AK	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>SAN-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 23/02/2011
WRLFMD Ref No: MAY/7/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00005	Checked by: V. Mioulet
Sender Ref: MVKKB 2184/10	
Location: Solok Duen Masjiotanaha, Alor Gajam, Melaka, Malaysia	Topotype: SEA
Date collected: 29/07/2010	Genotype/strain: Mya-98
Date received by WRLFMD: 20/01/2011	Sequence filename: MAY10-07.SEQ
Date received for sequencing: 16/02/2011	Date sequence last updated: 21/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: epi. susp.	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2666
	Min. no. of nt for comparison: 600
	Total turn-around time: 34 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/13/2009 (HQ116261)	TAI09-13	639	630	0	98.59	1.41	SEA	Mya-98
2	O/TAI/15/2009 (HQ116262)	TAI09-15	639	630	0	98.59	1.41	SEA	Mya-98
3	O/TAI/16/2009 (HQ116263)	TAI09-16	639	630	0	98.59	1.41	SEA	Mya-98
4	O/TAI/17/2009 (HQ116264)	TAI09-17	639	630	0	98.59	1.41	SEA	Mya-98
5	O/MAY/22/2009	MAY09-22	639	630	0	98.59	1.41	SEA	Mya-98
6	O/MAY/25/2009	MAY09-25	639	629	0	98.44	1.56	SEA	Mya-98
7	O/MAY/26/2009	MAY09-26	639	629	0	98.44	1.56	SEA	Mya-98
8	O/MAY/20/2009 (HQ116218)	MAY09-20	639	628	0	98.28	1.72	SEA	Mya-98
9	O/MAY/21/2009 (HQ116219)	MAY09-21	639	628	0	98.28	1.72	SEA	Mya-98
10	O/MOG/CO3/2010* (ARRIAH)	MOG10-AA	639	628	0	98.28	1.72	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	583	0	91.24	8.76	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	565	0	88.42	11.58	SEA	unnamed
3	O/PAK/16/2003 (DQ165068)	PAK03-16	639	547	0	85.60	14.40	ME-SA	Pak-98
4	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	547	0	85.60	14.40	ME-SA	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	545	0	85.29	14.71	ME-SA	unnamed
6	O/CAM/3/98 (AJ294910)	CAM98-03	639	541	0	84.66	15.34	SEA	Cam-94
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	541	0	84.66	15.34	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/PAK/16/2010	PAK10-16	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>PUN-10</sup>
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>TER-08</sup>
10	O/IRN/31/2009	IRN09-31	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>FAR-09</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 23/02/2011
WRLFMD Ref No: MAY/8/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00005	Checked by: V. Mioulet
Sender Ref: MVKKB 2791/10	
Location: KG Padang Lebarkotha, Remban, Nigeri Sembilan, Malaysia	Topotype: SEA
Date collected: 30/09/2010	Genotype/strain: Mya-98
Date received by WRLFMD: 20/01/2011	Sequence filename: MAY10-08.SEQ
Date received for sequencing: 16/02/2011	Date sequence last updated: 21/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: epi. susp.	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2666
	Min. no. of nt for comparison: 600
	Total turn-around time: 34 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/5/2010	VIT10-05	639	636	0	99.53	0.47	SEA	Mya-98
2	O/TAI/2/2010	TAI10-02	639	635	0	99.37	0.63	SEA	Mya-98
3	O/TAI/27/2009	TAI09-27	639	635	0	99.37	0.63	SEA	Mya-98
4	O/TAI/4/2010	TAI10-04	639	635	0	99.37	0.63	SEA	Mya-98
5	O/TAI/5/2010	TAI10-05	639	635	0	99.37	0.63	SEA	Mya-98
6	O/TAI/6/2010	TAI10-06	639	635	0	99.37	0.63	SEA	Mya-98
7	O/TAI/3/2010	TAI10-03	639	634	0	99.22	0.78	SEA	Mya-98
8	O/MAY/13/2010	MAY10-13	639	632	0	98.90	1.10	SEA	Mya-98
9	O/TAI/8/2005 (HQ116237)	TAI05-08	639	606	0	94.84	5.16	SEA	Mya-98
10	O/TAI/1/2005 (HQ116234)	TAI05-01	639	604	0	94.52	5.48	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	590	0	92.33	7.67	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	569	0	89.05	10.95	SEA	unnamed
3	O/IRN/31/2009	IRN09-31	639	546	0	85.45	14.55	ME-SA	PanAsia-2 <sup>FAR-09</sup>
4	O/IND/R2/75* (AF204276)	IND75--A	639	544	0	85.13	14.87	ME-SA	unnamed
5	O/UKG/35/2001 (AJ539141)	UKG01-35	639	543	0	84.98	15.02	ME-SA	PanAsia
6	O/IND/53/79 (AF292107)	IND79A53	639	542	0	84.82	15.18	ME-SA	unnamed
7	O/PAK/16/2010	PAK10-16	639	542	0	84.82	15.18	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/CAM/3/98 (AJ294910)	CAM98-03	639	540	0	84.51	15.49	SEA	Cam-94
9	O/IRN/8/2005	IRN05-08	639	539	0	84.35	15.65	ME-SA	PanAsia-2
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	538	0	84.19	15.81	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MAY/10/2010 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 2919/10 1 Location: KG Selamat, seberang Peai Utara, Penang, Malaysia Date collected: 18/10/2010 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 16/02/2011 Species: Pig Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY10-10.SEQ Date sequence last updated: 21/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MAY/11/2010	MAY10-11	639	639	0	100.00	0.00	SEA	Mya-98
2	O/LAO/087/2008*	LAO08-AJ	639	631	0	98.75	1.25	SEA	Mya-98
3	O/MYA/2/2008 (HQ116226)	MYA08-02	639	631	0	98.75	1.25	SEA	Mya-98
4	O/TAI/3/2009 (HQ116258)	TAI09-03	639	631	0	98.75	1.25	SEA	Mya-98
5	O/LAO/078/2008*	LAO08-AF	639	630	0	98.59	1.41	SEA	Mya-98
6	O/LAO/080/2008*	LAO08-AH	639	630	0	98.59	1.41	SEA	Mya-98
7	O/LAO/071/2008*	LAO08-AD	639	629	0	98.44	1.56	SEA	Mya-98
8	O/LAO/073/2008*	LAO08-AE	639	629	0	98.44	1.56	SEA	Mya-98
9	O/LAO/081/2008*	LAO08-AI	639	629	0	98.44	1.56	SEA	Mya-98
10	O/LAO/096/2009*	LAO09-AA	639	629	0	98.44	1.56	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	592	0	92.64	7.36	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	568	0	88.89	11.11	SEA	unnamed
3	O/PAK/16/2003 (DQ165068)	PAK03-16	639	545	0	85.29	14.71	ME-SA	Pak-98
4	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	544	0	85.13	14.87	ME-SA	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	542	0	84.82	15.18	ME-SA	unnamed
6	O/CAM/3/98 (AJ294910)	CAM98-03	639	541	0	84.66	15.34	SEA	Cam-94
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>TER-08</sup>
9	O/IRN/31/2009	IRN09-31	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>FAR-09</sup>
10	O/PAK/16/2010	PAK10-16	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>PUN-10</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MAY/11/2010 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 2919/10 2 Location: KG Selamata, seberang Peai Utara, Penang, Malaysia Date collected: 18/10/2010 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 16/02/2011 Species: Pig Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY10-11.SEQ Date sequence last updated: 21/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MAY/10/2010	MAY10-10	639	639	0	100.00	0.00	SEA	Mya-98
2	O/LAO/087/2008*	LAO08-AJ	639	631	0	98.75	1.25	SEA	Mya-98
3	O/MYA/2/2008 (HQ116226)	MYA08-02	639	631	0	98.75	1.25	SEA	Mya-98
4	O/TAI/3/2009 (HQ116258)	TAI09-03	639	631	0	98.75	1.25	SEA	Mya-98
5	O/LAO/078/2008*	LAO08-AF	639	630	0	98.59	1.41	SEA	Mya-98
6	O/LAO/080/2008*	LAO08-AH	639	630	0	98.59	1.41	SEA	Mya-98
7	O/LAO/071/2008*	LAO08-AD	639	629	0	98.44	1.56	SEA	Mya-98
8	O/LAO/073/2008*	LAO08-AE	639	629	0	98.44	1.56	SEA	Mya-98
9	O/LAO/081/2008*	LAO08-AI	639	629	0	98.44	1.56	SEA	Mya-98
10	O/LAO/096/2009*	LAO09-AA	639	629	0	98.44	1.56	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	592	0	92.64	7.36	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	568	0	88.89	11.11	SEA	unnamed
3	O/PAK/16/2003 (DQ165068)	PAK03-16	639	545	0	85.29	14.71	ME-SA	Pak-98
4	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	544	0	85.13	14.87	ME-SA	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	542	0	84.82	15.18	ME-SA	unnamed
6	O/CAM/3/98 (AJ294910)	CAM98-03	639	541	0	84.66	15.34	SEA	Cam-94
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>SAN-09</sup>
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	539	0	84.35	15.65	ME-SA	PanAsia-2 <sup>TER-08</sup>
9	O/IRN/31/2009	IRN09-31	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>FAR-09</sup>
10	O/PAK/16/2010	PAK10-16	639	538	0	84.19	15.81	ME-SA	PanAsia-2 <sup>PUN-10</sup>

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 23/02/2011
WRLFMD Ref No: MAY/12/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00005	Checked by: V. Mioulet
Sender Ref: MVKKB 2982/10	
Location: KG Cabang Haji Tok Rassima, Kota Bharu, Kelantan, Malaysia	Topotype: SEA
Date collected: 24/10/2010	Genotype/strain: Mya-98
Date received by WRLFMD: 20/01/2011	Sequence filename: MAY10-12.SEQ
Date received for sequencing: 16/02/2011	Date sequence last updated: 23/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: epi. susp.	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2667
	Min. no. of nt for comparison: 600
	Total turn-around time: 34 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/5/2010	VIT10-05	639	638	0	99.84	0.16	SEA	Mya-98
2	O/TAI/2/2010	TAI10-02	639	637	0	99.69	0.31	SEA	Mya-98
3	O/TAI/27/2009	TAI09-27	639	637	0	99.69	0.31	SEA	Mya-98
4	O/TAI/5/2010	TAI10-05	639	637	0	99.69	0.31	SEA	Mya-98
5	O/TAI/6/2010	TAI10-06	639	637	0	99.69	0.31	SEA	Mya-98
6	O/TAI/3/2010	TAI10-03	639	636	0	99.53	0.47	SEA	Mya-98
7	O/TAI/4/2010	TAI10-04	639	635	0	99.37	0.63	SEA	Mya-98
8	O/MAY/8/2010	MAY10-08	639	635	0	99.37	0.63	SEA	Mya-98
9	O/MAY/13/2010	MAY10-13	639	634	0	99.22	0.78	SEA	Mya-98
10	O/TAI/8/2005 (HQ116237)	TAI05-08	639	610	0	95.46	4.54	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	593	0	92.80	7.20	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	571	0	89.36	10.64	SEA	unnamed
3	O/IRN/31/2009	IRN09-31	639	549	0	85.92	14.08	ME-SA	PanAsia-2 <sup>FAR-09</sup>
4	O/IND/R2/75* (AF204276)	IND75--A	639	548	0	85.76	14.24	ME-SA	unnamed
5	O/UKG/35/2001 (AJ539141)	UKG01-35	639	547	0	85.60	14.40	ME-SA	PanAsia
6	O/IND/53/79 (AF292107)	IND79A53	639	546	0	85.45	14.55	ME-SA	unnamed
7	O/PAK/16/2010	PAK10-16	639	545	0	85.29	14.71	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/CAM/3/98 (AJ294910)	CAM98-03	639	542	0	84.82	15.18	SEA	Cam-94
9	O/IRN/8/2005	IRN05-08	639	542	0	84.82	15.18	ME-SA	PanAsia-2
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	541	0	84.66	15.34	ME-SA	Pak-98

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O WRLFMD Ref No: MAY/13/2010 Batch No: WRLFMD/2011/00005 Sender Ref: MVKKB 3245/10 Location: SKV Padang Besar, Padand Besar, Perus, Malaysia Date collected: 12/11/2010 Date received by WRLFMD: 20/01/2011 Date received for sequencing: 16/02/2011 Species: Cattle Material used: epi. susp. Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 23/02/2011 Reported by: N.J. Knowles Checked by: V. Mioulet  Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MAY10-13.SEQ Date sequence last updated: 21/02/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2666 Min. no. of nt for comparison: 600 Total turn-around time: 34 days Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/TAI/3/2010	TAI10-03	639	637	0	99.69	0.31	SEA	Mya-98
2	O/TAI/2/2010	TAI10-02	639	636	0	99.53	0.47	SEA	Mya-98
3	O/TAI/27/2009	TAI09-27	639	636	0	99.53	0.47	SEA	Mya-98
4	O/TAI/5/2010	TAI10-05	639	636	0	99.53	0.47	SEA	Mya-98
5	O/VIT/5/2010	VIT10-05	639	635	0	99.37	0.63	SEA	Mya-98
6	O/TAI/4/2010	TAI10-04	639	634	0	99.22	0.78	SEA	Mya-98
7	O/TAI/6/2010	TAI10-06	639	634	0	99.22	0.78	SEA	Mya-98
8	O/MAY/8/2010	MAY10-08	639	632	0	98.90	1.10	SEA	Mya-98
9	O/TAI/8/2005 (HQ116237)	TAI05-08	639	605	0	94.68	5.32	SEA	Mya-98
10	O/TAI/1/2005 (HQ116234)	TAI05-01	639	603	0	94.37	5.63	SEA	Mya-98
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/MYA/7/98 (DQ164925)	MYA98-07	639	588	0	92.02	7.98	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	566	0	88.58	11.42	SEA	unnamed
3	O/IRN/31/2009	IRN09-31	639	544	0	85.13	14.87	ME-SA	PanAsia-2 <sup>FAR-09</sup>
4	O/IND/R2/75* (AF204276)	IND75--A	639	543	0	84.98	15.02	ME-SA	unnamed
5	O/UKG/35/2001 (AJ539141)	UKG01-35	639	542	0	84.82	15.18	ME-SA	PanAsia
6	O/IND/53/79 (AF292107)	IND79A53	639	541	0	84.66	15.34	ME-SA	unnamed
7	O/PAK/16/2010	PAK10-16	639	540	0	84.51	15.49	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/CAM/3/98 (AJ294910)	CAM98-03	639	539	0	84.35	15.65	SEA	Cam-94
9	O/IRN/8/2005	IRN05-08	639	537	0	84.04	15.96	ME-SA	PanAsia-2
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	536	0	83.88	16.12	ME-SA	Pak-98

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v3.11

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# Report on FMDV O in Malaysia in 2009-2010

Batch: WRLFMD/2011/00005

Software: MEGA 5.0

Analysis

Analysis ----- Phylogeny Reconstruction  
 Scope ----- All Selected Taxa  
 Statistical Method ----- Neighbor-joining

Phylogeny Test

Test of Phylogeny ----- Bootstrap method  
 No. of Bootstrap Replications ----- 1000

Substitution Model

Substitutions Type ----- Nucleotide  
 Model/Method ----- Kimura 2-parameter model  
 Substitutions to Include ----- d: Transitions + Transversions

Rates and Patterns

Rates among Sites ----- Uniform rates  
 Pattern among Lineages ----- Same (Homogeneous)

Data Subset to Use

Gaps/Missing Data Treatment ----- Pairwise deletion  
 Codons Included ----- 1st+2nd+3rd+Non-Coding

No. of Sites : 639

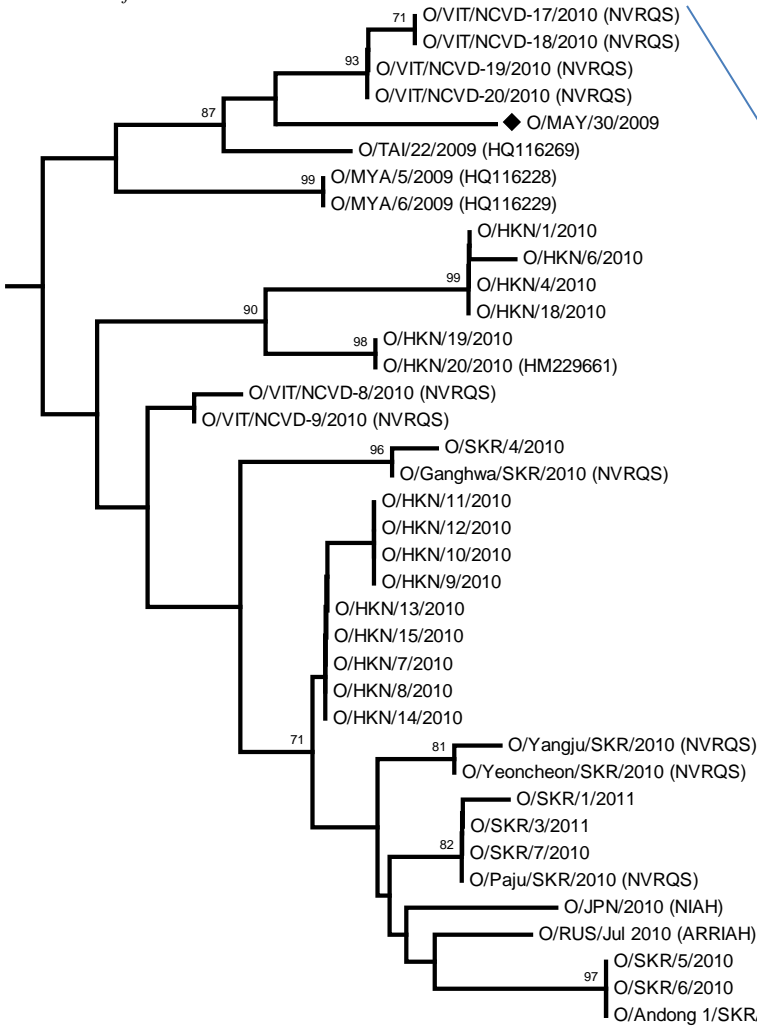
No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

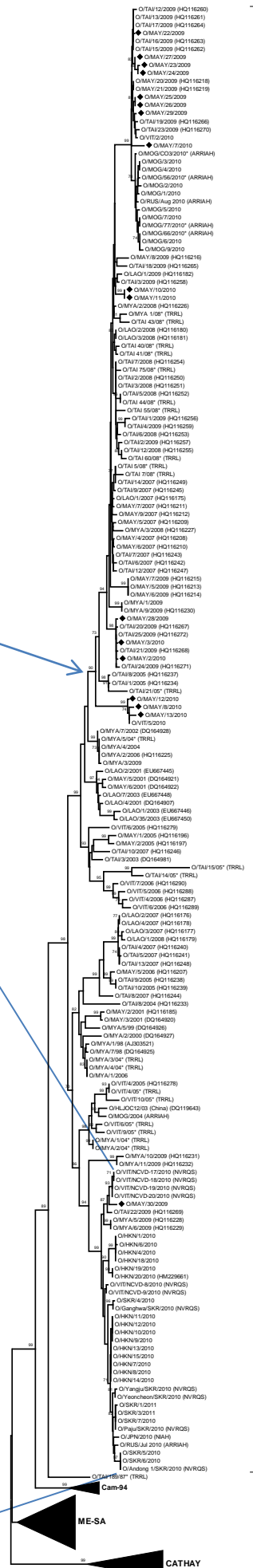
\*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 24 February 2011

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Sub-tree on next page



Mya-98 SEA

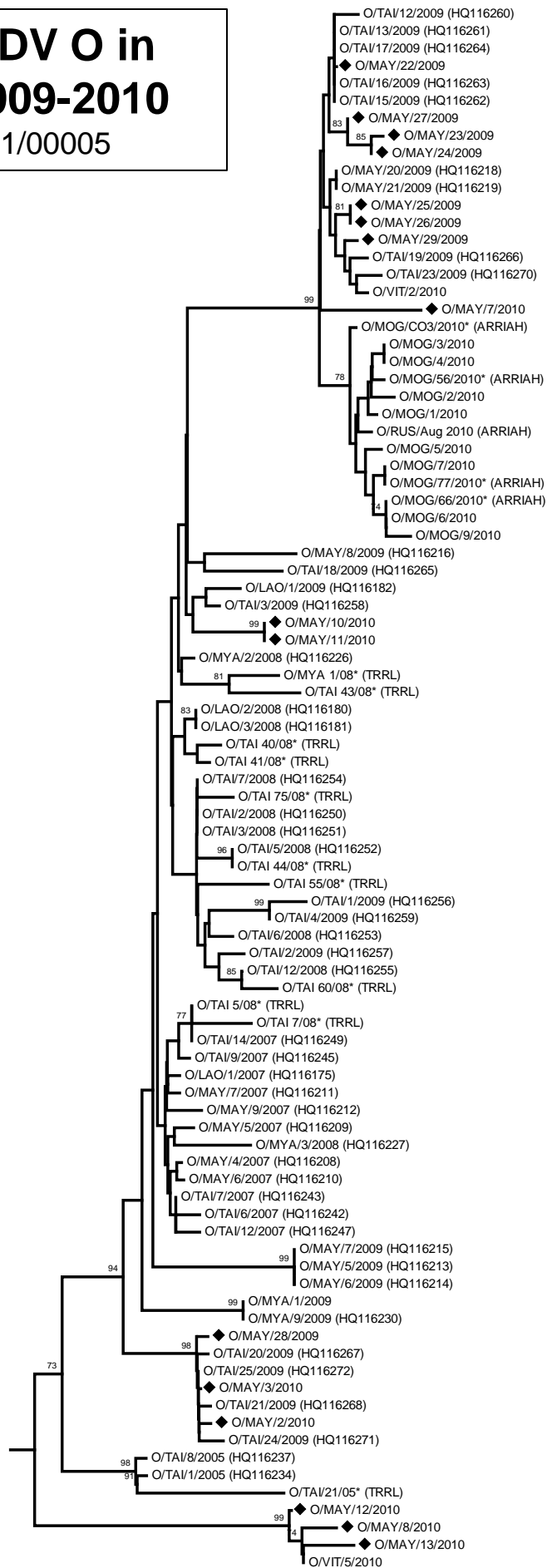
0.002

0.02



# Report on FMDV O in Malaysia in 2009-2010

Batch: WRLFMD/2011/00005



0.005