

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

Genotyping Report

Report Date for this Batch: 11 May 2015

FMDV type O

Country: Mongolia

Period: 2015

No. of samples: 4

BATCH: WRLFMD/2015/00005



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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: 07/05/2015
WRLFMD Ref No: MOG/1/2015	Reported by: N.J. Knowles
Batch No: WRLFMD/2015/00005	Checked by: K. Bachanek-Bankowska
Sender Ref: O/MOG/1/2015	
Location: not given, Mongolia	Topotype: SEA
Date collected: 28/02/2015	Genotype/strain: Mya-98
Date received by WRLFMD: 09/04/2015	Sequence filename: MOG15-01.SEQ
Date received for sequencing: 30/04/2015	Date sequence last updated: 07/05/2015
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 23/04/2015	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 4127
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 28 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/MOG/2/2015	MOG15-02	639	639	0	100.00	0.00	SEA	Mya-98
2	O/MOG/3/2015	MOG15-03	639	639	0	100.00	0.00	SEA	Mya-98
3	O/MOG/4/2015	MOG15-04	639	639	0	100.00	0.00	SEA	Mya-98
4	O/MAY/2/2014	MAY14-02	639	635	0	99.37	0.63	SEA	Mya-98
5	O/MAY/9/2014	MAY14-09	639	633	0	99.06	0.94	SEA	Mya-98
6	O/VIT/18/2014	VIT14-18	639	633	0	99.06	0.94	SEA	Mya-98
7	O/VIT/21/2014	VIT14-21	639	633	0	99.06	0.94	SEA	Mya-98
8	O/VIT/26/2014	VIT14-26	639	633	0	99.06	0.94	SEA	Mya-98
9	O/VIT/27/2014	VIT14-27	639	633	0	99.06	0.94	SEA	Mya-98
10	O/VIT/13/2014	VIT14-13	639	632	0	98.90	1.10	SEA	Mya-98
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
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	589	0	92.18	7.82	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	568	0	88.89	11.11	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	555	0	86.85	13.15	ME-SA	unnamed
4	O/CAM/3/98 (AJ294910)	CAM98-03	639	551	0	86.23	13.77	SEA	Cam-94
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	549	0	85.92	14.08	ME-SA	unnamed
6	O/IRN/31/2009	IRN09-31	639	546	0	85.45	14.55	ME-SA	PanAsia-2 ^{FAR-09}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	546	0	85.45	14.55	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UAE/4/2008 (KM921876)	UAE08-04	636	543	0	85.38	14.62	ME-SA	Ind-2001c
9	O/UKG/35/2001 (AJ539141)	UKG01-35	639	545	0	85.29	14.71	ME-SA	PanAsia
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	544	0	85.13	14.87	ME-SA	Ind-2001b

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	Report date: 07/05/2015
WRLFMD Ref No: MOG/2/2015	Reported by: N.J. Knowles
Batch No: WRLFMD/2015/00005	Checked by: K. Bachanek-Bankowska
Sender Ref: O/MOG/2/2015	
Location: not given, Mongolia	Topotype: SEA
Date collected: 28/02/2015	Genotype/strain: Mya-98
Date received by WRLFMD: 09/04/2015	Sequence filename: MOG15-02.SEQ
Date received for sequencing: 30/04/2015	Date sequence last updated: 07/05/2015
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 24/04/2015	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 4127
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 28 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/MOG/1/2015	MOG15-01	639	639	0	100.00	0.00	SEA	Mya-98
2	O/MOG/3/2015	MOG15-03	639	639	0	100.00	0.00	SEA	Mya-98
3	O/MOG/4/2015	MOG15-04	639	639	0	100.00	0.00	SEA	Mya-98
4	O/MAY/2/2014	MAY14-02	639	635	0	99.37	0.63	SEA	Mya-98
5	O/MAY/9/2014	MAY14-09	639	633	0	99.06	0.94	SEA	Mya-98
6	O/VIT/18/2014	VIT14-18	639	633	0	99.06	0.94	SEA	Mya-98
7	O/VIT/21/2014	VIT14-21	639	633	0	99.06	0.94	SEA	Mya-98
8	O/VIT/26/2014	VIT14-26	639	633	0	99.06	0.94	SEA	Mya-98
9	O/VIT/27/2014	VIT14-27	639	633	0	99.06	0.94	SEA	Mya-98
10	O/VIT/13/2014	VIT14-13	639	632	0	98.90	1.10	SEA	Mya-98
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1	O/MYA/7/98 (DQ164925)	MYA98-07	639	589	0	92.18	7.82	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	568	0	88.89	11.11	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	555	0	86.85	13.15	ME-SA	unnamed
4	O/CAM/3/98 (AJ294910)	CAM98-03	639	551	0	86.23	13.77	SEA	Cam-94
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	549	0	85.92	14.08	ME-SA	unnamed
6	O/IRN/31/2009	IRN09-31	639	546	0	85.45	14.55	ME-SA	PanAsia-2 ^{FAR-09}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	546	0	85.45	14.55	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UAE/4/2008 (KM921876)	UAE08-04	636	543	0	85.38	14.62	ME-SA	Ind-2001c
9	O/UKG/35/2001 (AJ539141)	UKG01-35	639	545	0	85.29	14.71	ME-SA	PanAsia
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	544	0	85.13	14.87	ME-SA	Ind-2001b

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FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

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WRLFMD Ref No: MOG/3/2015	Reported by: N.J. Knowles
Batch No: WRLFMD/2015/00005	Checked by: K. Bachanek-Bankowska
Sender Ref: O/MOG/3/2015	
Location: not given, Mongolia	Topotype: SEA
Date collected: 28/02/2015	Genotype/strain: Mya-98
Date received by WRLFMD: 09/04/2015	Sequence filename: MOG15-03.SEQ
Date received for sequencing: 30/04/2015	Date sequence last updated: 07/05/2015
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 24/04/2015	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 4127
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 28 days
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Comments:	

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1	O/MOG/1/2015	MOG15-01	639	639	0	100.00	0.00	SEA	Mya-98
2	O/MOG/2/2015	MOG15-02	639	639	0	100.00	0.00	SEA	Mya-98
3	O/MOG/4/2015	MOG15-04	639	639	0	100.00	0.00	SEA	Mya-98
4	O/MAY/2/2014	MAY14-02	639	635	0	99.37	0.63	SEA	Mya-98
5	O/MAY/9/2014	MAY14-09	639	633	0	99.06	0.94	SEA	Mya-98
6	O/VIT/18/2014	VIT14-18	639	633	0	99.06	0.94	SEA	Mya-98
7	O/VIT/21/2014	VIT14-21	639	633	0	99.06	0.94	SEA	Mya-98
8	O/VIT/26/2014	VIT14-26	639	633	0	99.06	0.94	SEA	Mya-98
9	O/VIT/27/2014	VIT14-27	639	633	0	99.06	0.94	SEA	Mya-98
10	O/VIT/13/2014	VIT14-13	639	632	0	98.90	1.10	SEA	Mya-98
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3	O/IND/R2/75* (AF204276)	IND75--A	639	555	0	86.85	13.15	ME-SA	unnamed
4	O/CAM/3/98 (AJ294910)	CAM98-03	639	551	0	86.23	13.77	SEA	Cam-94
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8	O/UAE/4/2008 (KM921876)	UAE08-04	636	543	0	85.38	14.62	ME-SA	Ind-2001c
9	O/UKG/35/2001 (AJ539141)	UKG01-35	639	545	0	85.29	14.71	ME-SA	PanAsia
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	544	0	85.13	14.87	ME-SA	Ind-2001b

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FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

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Batch No: WRLFMD/2015/00005	Checked by: K. Bachanek-Bankowska
Sender Ref: O/MOG/4/2015	
Location: not given, Mongolia	Topotype: SEA
Date collected: 28/02/2015	Genotype/strain: Mya-98
Date received by WRLFMD: 09/04/2015	Sequence filename: MOG15-04.SEQ
Date received for sequencing: 30/04/2015	Date sequence last updated: 07/05/2015
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 24/04/2015	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 4127
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 28 days
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1	O/MOG/1/2015	MOG15-01	639	639	0	100.00	0.00	SEA	Mya-98
2	O/MOG/2/2015	MOG15-02	639	639	0	100.00	0.00	SEA	Mya-98
3	O/MOG/3/2015	MOG15-03	639	639	0	100.00	0.00	SEA	Mya-98
4	O/MAY/2/2014	MAY14-02	639	635	0	99.37	0.63	SEA	Mya-98
5	O/MAY/9/2014	MAY14-09	639	633	0	99.06	0.94	SEA	Mya-98
6	O/VIT/18/2014	VIT14-18	639	633	0	99.06	0.94	SEA	Mya-98
7	O/VIT/21/2014	VIT14-21	639	633	0	99.06	0.94	SEA	Mya-98
8	O/VIT/26/2014	VIT14-26	639	633	0	99.06	0.94	SEA	Mya-98
9	O/VIT/27/2014	VIT14-27	639	633	0	99.06	0.94	SEA	Mya-98
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2	O/TAI/189/87* (TRRL)	TAI87-AC	639	568	0	88.89	11.11	SEA	unnamed
3	O/IND/R2/75* (AF204276)	IND75--A	639	555	0	86.85	13.15	ME-SA	unnamed
4	O/CAM/3/98 (AJ294910)	CAM98-03	639	551	0	86.23	13.77	SEA	Cam-94
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	549	0	85.92	14.08	ME-SA	unnamed
6	O/IRN/31/2009	IRN09-31	639	546	0	85.45	14.55	ME-SA	PanAsia-2 ^{FAR-09}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	546	0	85.45	14.55	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UAE/4/2008 (KM921876)	UAE08-04	636	543	0	85.38	14.62	ME-SA	Ind-2001c
9	O/UKG/35/2001 (AJ539141)	UKG01-35	639	545	0	85.29	14.71	ME-SA	PanAsia
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	544	0	85.13	14.87	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV O in Mongolia in 2015

Batch: WRLFMD/2015/00005

◆ indicates viruses in this batch

Software: MEGA 6.06

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 : 642

No Of Bootstrap Reps = 1000

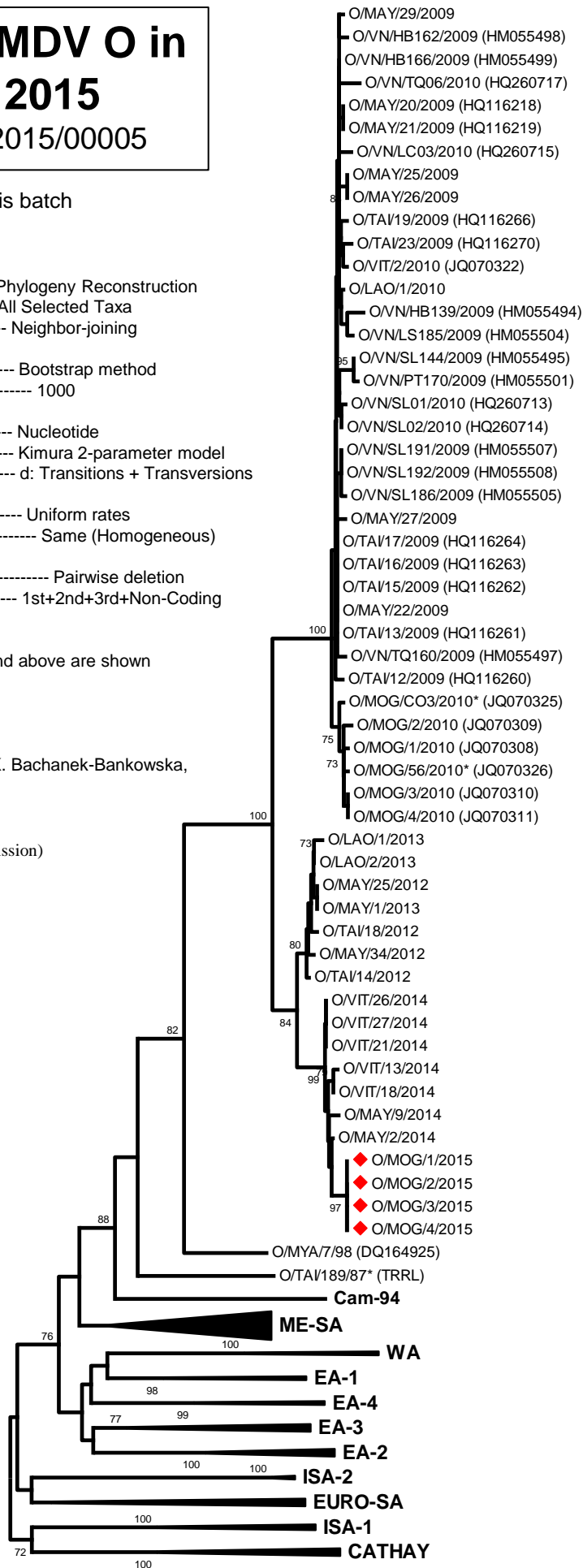
Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles, J. Wadsworth & K. Bachanek-Bankowska,
11 May 2015

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Mya-98

SEA

0.02