

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

Genotyping Report

Report Date for this Batch: 2 March 2016

FMDV type O

Country: Kuwait

Period: 2016

No. of samples: 3

BATCH: WRLFMD/2016/000009



The contents of this report are copyright and should not be reproduced without permission

© The Pirbright Institute

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O WRLFMD Ref No: KUW/1/2016 Batch No: WRLFMD/2016/00009 Sender Ref: 1H Location: Al abdel jalil Farm, Sulybia Farms, Sulybia, Sulybia, Kuwait Date collected: 30/01/2016 Date received by WRLFMD: 10/02/2016 Date received for sequencing: 29/02/2016 Species: Cattle Material used: BTy1 19/02/2016 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 02/03/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ME-SA Genotype/strain: PanAsia-2 ^{BAL-09} Sequence filename: KUW16-01.SEQ Date sequence last updated: 02/03/2016 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 4227 Min. no. of nt for comparison: 600 Total turn-around time: 21 days Sequencing time: 2 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/KUW/2/2016	KUW16-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{BAL-09}
2	O/KUW/4/2016	KUW16-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{BAL-09}
3	O/IRN/6/2015	IRN15-06	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{BAL-09}
4	O/IRN/26/2015	IRN15-26	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{BAL-09}
5	O/IRN/15/2015	IRN15-15	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{BAL-09}
6	O/IRN/16/2015	IRN15-16	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{BAL-09}
7	O/AFG/109/2010	AFG10109	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
8	O/AFG/12/2010	AFG10-12	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
9	O/AFG/19/2010	AFG10-19	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
10	O/AFG/21/2010	AFG10-21	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}

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/IRN/18/2010	IRN10-18	639	607	0	94.99	5.01	ME-SA	PanAsia-2 ^{BAL-09}
2	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	591	0	92.49	7.51	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/88/2009	IRN09-88	639	588	0	92.02	7.98	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/16/2010	PAK10-16	639	586	0	91.71	8.29	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	584	0	91.39	8.61	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	573	0	89.67	10.33	ME-SA	Ind-2001a
10	O/BHU/3/2009 (KM921814)	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© *The Pirbright Institute* (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O WRLFMD Ref No: KUW/2/2016 Batch No: WRLFMD/2016/00009 Sender Ref: 6H Location: Shams El dien Farm, Sulybia Farms, Sulybia, Sulybia, Kuwait Date collected: 30/01/2016 Date received by WRLFMD: 10/02/2016 Date received for sequencing: 29/02/2016 Species: Cattle Material used: BTy2 23/02/2016 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 02/03/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ME-SA Genotype/strain: PanAsia-2 ^{BAL-09} Sequence filename: KUW16-02.SEQ Date sequence last updated: 02/03/2016 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 4227 Min. no. of nt for comparison: 600 Total turn-around time: 21 days Sequencing time: 2 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/KUW/1/2016	KUW16-01	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{BAL-09}
2	O/KUW/4/2016	KUW16-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{BAL-09}
3	O/IRN/6/2015	IRN15-06	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{BAL-09}
4	O/IRN/26/2015	IRN15-26	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{BAL-09}
5	O/IRN/15/2015	IRN15-15	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{BAL-09}
6	O/IRN/16/2015	IRN15-16	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{BAL-09}
7	O/AFG/109/2010	AFG10109	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
8	O/AFG/12/2010	AFG10-12	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
9	O/AFG/19/2010	AFG10-19	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
10	O/AFG/21/2010	AFG10-21	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}

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/IRN/18/2010	IRN10-18	639	607	0	94.99	5.01	ME-SA	PanAsia-2 ^{BAL-09}
2	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	591	0	92.49	7.51	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/88/2009	IRN09-88	639	588	0	92.02	7.98	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/16/2010	PAK10-16	639	586	0	91.71	8.29	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	584	0	91.39	8.61	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	573	0	89.67	10.33	ME-SA	Ind-2001a
10	O/BHU/3/2009 (KM921814)	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d

nt, nucleotides

* , not a WRLFMD reference number

Assembled with Report Generator v4.3

© *The Pirbright Institute* (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O WRLFMD Ref No: KUW/4/2016 Batch No: WRLFMD/2016/00009 Sender Ref: 9H Location: Salman Dkhiel Hamdan Farm, Abdali Farm, Abdali, Abdali, Kuwait Date collected: 04/02/2016 Date received by WRLFMD: 10/02/2016 Date received for sequencing: 29/02/2016 Species: Cattle Material used: BTy1 19/02/2016 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 02/03/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ME-SA Genotype/strain: PanAsia-2 ^{BAL-09} Sequence filename: KUW16-04.SEQ Date sequence last updated: 02/03/2016 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 4227 Min. no. of nt for comparison: 600 Total turn-around time: 21 days Sequencing time: 2 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/KUW/1/2016	KUW16-01	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{BAL-09}
2	O/KUW/2/2016	KUW16-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{BAL-09}
3	O/IRN/6/2015	IRN15-06	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{BAL-09}
4	O/IRN/26/2015	IRN15-26	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{BAL-09}
5	O/IRN/15/2015	IRN15-15	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{BAL-09}
6	O/IRN/16/2015	IRN15-16	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{BAL-09}
7	O/AFG/109/2010	AFG10109	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
8	O/AFG/12/2010	AFG10-12	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
9	O/AFG/19/2010	AFG10-19	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
10	O/AFG/21/2010	AFG10-21	639	609	0	95.31	4.69	ME-SA	PanAsia-2 ^{BAL-09}
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/IRN/18/2010	IRN10-18	639	607	0	94.99	5.01	ME-SA	PanAsia-2 ^{BAL-09}
2	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	591	0	92.49	7.51	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/88/2009	IRN09-88	639	588	0	92.02	7.98	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/16/2010	PAK10-16	639	586	0	91.71	8.29	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	584	0	91.39	8.61	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	573	0	89.67	10.33	ME-SA	Ind-2001a
10	O/BHU/3/2009 (KM921814)	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

Report on FMDV O in Kuwait in 2016

Batch: WRLFMD/2016/00009

◆ 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,
02 March 2016

© The Pirbright Institute

(not to be reproduced without permission)

