

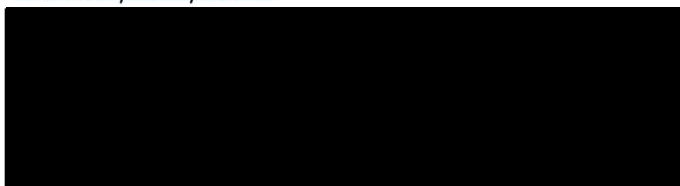


INSTITUTE FOR ANIMAL HEALTH
Director: Professor John Fazakerley BSc, MBA, PhD, FRCPath
PIRBRIGHT LABORATORY
Ash Road,
Pirbright,
Surrey,
GU24 0NF
Intn Tel: 00 44 1483 232441
Tel: 01483 232441, Fax: 01483 232621

FMD Genotyping Report

Lab Reference WRL Batch Number: WRLFMD/2012/00013

Sender Details:



Date Received: 13th March 2012

Country of Origin: Kuwait

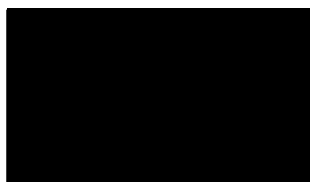
Date Reported: 8th May 2012

Dear Dr Attia Mohamed Samy,

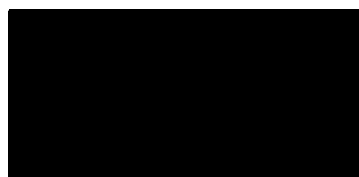
Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at:

<http://www.wrlfmd.org/>

Results Approved By:

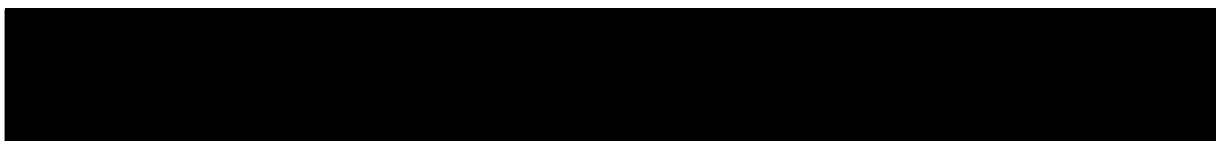


Official Stamp:



Date:

8/5/12



A UKAS accredited testing laboratory No. 4025.

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: gareth.shimmon@iah.ac.uk. IAH actively seeks and appreciates feedback, if you would like to offer feedback please complete the WRLFMD survey here: <http://www.surveymonkey.com/s/WRLFMD>

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

Genotyping Report

Report Date for this Batch: 2 May 2012

FMDV type O

Country: Kuwait

Period: 2011-2012

No. of samples: 12

BATCH: WRLFMD/2012/00013



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/3/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 1	
Location: Sulibiiy, Kuwait	Topotype: ME-SA
Date collected: 20/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-03.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/10/2011	KUW11-10	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/11/2011	KUW11-11	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/4/2011	KUW11-04	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/1/2012	KUW12-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/5/2011	KUW11-05	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/6/2011	KUW11-06	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/8/2011	KUW11-08	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/7/2011	KUW11-07	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	619	0	96.87	3.13	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
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	568	0	88.89	11.11	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	564	1	88.40	11.60	ME-SA	Irn-2001

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	Report date: 02/05/2012
WRLFMD Ref No: KUW/4/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 2	
Location: Sulibiiy, Kuwait	Topotype: ME-SA
Date collected: 20/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-04.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/10/2011	KUW11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/11/2011	KUW11-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/1/2012	KUW12-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/3/2011	KUW11-03	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/5/2011	KUW11-05	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/6/2011	KUW11-06	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/8/2011	KUW11-08	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/7/2011	KUW11-07	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	565	1	88.56	11.44	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: KUW/5/2011 Batch No: WRLFMD/2012/00013 Sender Ref: 3 Location: Sulibiiy, Kuwait Date collected: 20/12/2011 Date received by WRLFMD: 13/03/2012 Date received for sequencing: 05/04/2012 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 02/05/2012 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 ^{ANT-10} Sequence filename: KUW11-05.SEQ Date sequence last updated: 02/05/2012 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 3271 Min. no. of nt for comparison: 600 Total turn-around time: 50 days Sequencing time: 27 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/6/2011	KUW11-06	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/8/2011	KUW11-08	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/1/2012	KUW12-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/7/2011	KUW11-07	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/10/2011	KUW11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/11/2011	KUW11-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/4/2011	KUW11-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/3/2011	KUW11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Irn-2001

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	Report date: 02/05/2012
WRLFMD Ref No: KUW/6/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 10	
Location: Sulibiiy, Kuwait	Topotype: ME-SA
Date collected: 20/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-06.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/5/2011	KUW11-05	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/8/2011	KUW11-08	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/1/2012	KUW12-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/7/2011	KUW11-07	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/10/2011	KUW11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/11/2011	KUW11-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/4/2011	KUW11-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/3/2011	KUW11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Iran-2001

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	Report date: 02/05/2012
WRLFMD Ref No: KUW/7/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 4	
Location: Sulibiiy, Kuwait	Topotype: ME-SA
Date collected: 20/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-07.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/5/2011	KUW11-05	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/6/2011	KUW11-06	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/8/2011	KUW11-08	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/1/2012	KUW12-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/10/2011	KUW11-10	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/11/2011	KUW11-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/4/2011	KUW11-04	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/3/2011	KUW11-03	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	619	0	96.87	3.13	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{BAL-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	568	0	88.89	11.11	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	566	1	88.71	11.29	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/8/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 5	
Location: Sulibiiy, Kuwait	Topotype: ME-SA
Date collected: 20/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-08.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/5/2011	KUW11-05	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/6/2011	KUW11-06	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/1/2012	KUW12-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/7/2011	KUW11-07	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/10/2011	KUW11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/11/2011	KUW11-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/4/2011	KUW11-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/3/2011	KUW11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/9/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 6	
Location: Sulibiy, Kuwait	Topotype: ME-SA
Date collected: 27/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-09.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/1/2012	KUW12-01	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/10/2011	KUW11-10	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/11/2011	KUW11-11	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/4/2011	KUW11-04	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/5/2011	KUW11-05	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/6/2011	KUW11-06	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/8/2011	KUW11-08	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/BAR/4/2012	BAR12-04	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	602	0	94.21	5.79	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{TER-08}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	566	1	88.71	11.29	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/10/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 7	
Location: Sulibiy, Kuwait	Topotype: ME-SA
Date collected: 27/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-10.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/11/2011	KUW11-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/4/2011	KUW11-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/1/2012	KUW12-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/3/2011	KUW11-03	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/5/2011	KUW11-05	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/6/2011	KUW11-06	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/8/2011	KUW11-08	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/7/2011	KUW11-07	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	565	1	88.56	11.44	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/11/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 8	
Location: Sulibiy, Kuwait	Topotype: ME-SA
Date collected: 27/12/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW11-11.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/10/2011	KUW11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/4/2011	KUW11-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/1/2012	KUW12-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/3/2011	KUW11-03	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/5/2011	KUW11-05	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/6/2011	KUW11-06	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/8/2011	KUW11-08	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/7/2011	KUW11-07	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	565	1	88.56	11.44	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/1/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 9	
Location: Abdali, Kuwait	Topotype: ME-SA
Date collected: 07/01/2012	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW12-01.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/10/2011	KUW11-10	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/KUW/11/2011	KUW11-11	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/KUW/4/2011	KUW11-04	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/5/2011	KUW11-05	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/6/2011	KUW11-06	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/8/2011	KUW11-08	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/3/2011	KUW11-03	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/7/2011	KUW11-07	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/2/2012	KUW12-02	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/3/2012	KUW12-03	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	621	0	97.18	2.82	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	566	1	88.71	11.29	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 02/05/2012
WRLFMD Ref No: KUW/2/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 11	
Location: El Wafra, Kuwait	Topotype: ME-SA
Date collected: 09/02/2012	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW12-02.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/3/2012	KUW12-03	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/BAR/4/2012	BAR12-04	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
3	O/BAR/5/2012	BAR12-05	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/1/2012	KUW12-01	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/10/2011	KUW11-10	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/11/2011	KUW11-11	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/4/2011	KUW11-04	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/5/2011	KUW11-05	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/6/2011	KUW11-06	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/8/2011	KUW11-08	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	603	0	94.37	5.63	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Irn-2001

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: 02/05/2012
WRLFMD Ref No: KUW/3/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00013	Checked by: D.P. King
Sender Ref: 12	
Location: El Wafra, Kuwait	Topotype: ME-SA
Date collected: 09/02/2012	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 13/03/2012	Sequence filename: KUW12-03.SEQ
Date received for sequencing: 05/04/2012	Date sequence last updated: 02/05/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3271
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 50 days
	Sequencing time: 27 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/2/2012	KUW12-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/BAR/4/2012	BAR12-04	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
3	O/BAR/5/2012	BAR12-05	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
4	O/KUW/1/2012	KUW12-01	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
5	O/KUW/10/2011	KUW11-10	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
6	O/KUW/11/2011	KUW11-11	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
7	O/KUW/4/2011	KUW11-04	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
8	O/KUW/5/2011	KUW11-05	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
9	O/KUW/6/2011	KUW11-06	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
10	O/KUW/8/2011	KUW11-08	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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/88/2009	IRN09-88	639	620	0	97.03	2.97	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	603	0	94.37	5.63	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

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Report on FMDV O in Kuwait in 2011-2012

Batch: WRLFMD/2012/00013

◆ indicates viruses in this batch

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 : 642

No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

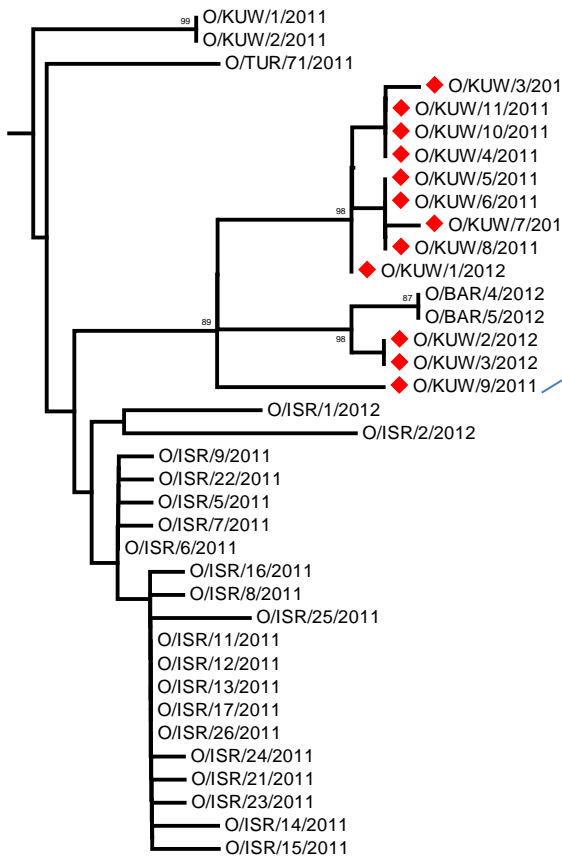
*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 02 May 2012

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O/AFG/121/2010
O/AFG/142/2010
O/AFG/126/2010
O/AFG/120/2010
O/AFG/164/2010
O/AFG/110/2010
O/IRN/62/2010
O/PAK/42/2010
O/PAK/101/2010
O/PAK/51/2010
O/PAK/57/2010
O/PAK/62/2010
O/PAK/67/2010
O/IRN/183/2010
O/IRN/139/2010
O/AFG/59/2010
O/AFG/61/2010
O/AFG/89/2010
O/IRN/96/2010
O/AFG/32/2010
O/PAK/36/2010
O/AFG/34/2010
O/IRN/97/2010
O/IBAR/17/2011
O/IRN/144/2010
O/IRN/28/2010
O/IRN/49/2010
O/AFG/219/2010
O/AFG/221/2010
O/AFG/217/2010
O/IRN/124/2010
O/IRN/91/2010
O/IRN/90/2010
O/IRN/65/2010
O/IRN/38/2010
O/IRN/33/2010
O/IRN/101/2010
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O/IRN/34/2010
O/IRN/142/2010
O/IRN/100/2010
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O/IRN/37/2010
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O/IRN/88/2009
O/IRN/89/2010
O/IRN/4/2010
O/IRN/30/2010
O/PAK/3/2010
O/PAK/4/2010
O/IRN/2/2010
O/IRN/11/2010
O/AFG/119/2010
O/PAK/7/2010
O/PAK/14/2010
O/AFG/104/2010
O/PAK/15/2010
O/AFG/242/2010
O/PAK/1/2010
O/PAK/2/2010
O/PAK/5/2010
O/PAK/8/2010
O/KUW/1/2011
O/KUW/2/2011
O/TUR/71/2011
◆ O/KUW/3/2011
◆ O/KUW/11/2011
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◆ O/KUW/8/2011
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◆ O/KUW/3/2012
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O/ISR/6/2011
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O/ISR/25/2011
O/ISR/11/2011
O/ISR/12/2011
O/ISR/13/2011
O/ISR/17/2011
O/ISR/26/2011
O/ISR/24/2011
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O/ISR/23/2011
O/ISR/14/2011
O/ISR/15/2011
O/PAK/16/2010
O/IRN/31/2009
O/IRN/18/2010
O/IRN/8/2005
O/TUR/257/2008* (FMDI)
O/TUR/264/2009* (FMDI)
O/UKG/35/2001 (A.J539141)
O/IRN/61/2001 (DQ164896)
Ind-2001
O/PAK/16/2003 (DQ165068)
O/IND/53/79 (AF292107)
O/IND/12/75* (AF204276)
O1/Manisa/TUR/69 (AY593823)
SEA
EA-2
EA-4
EA-3
EA-1
WA
CATHAY
ISA-1
ISA-2
EURO-SA
PUN-10
FAR-09
BAL-09
TER-08
SAN-09
PanAsia
Irn-2001
Pak-98



0.002

0.02