

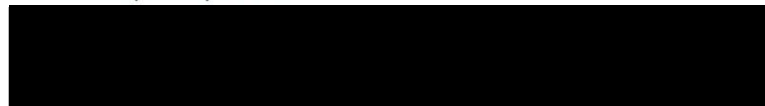


**INSTITUTE FOR ANIMAL HEALTH**  
Director: Professor Martin W. Shirley, PhD  
PIRBRIGHT LABORATORY  
Ash Road,  
Pirbright,  
Surrey,  
GU24 0NF  
Intn Tel: 00 44 1483 232441  
Tel: 01483 232441 Fax: 01483 232621

## FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00040

Sender Details:



Date Received: 17<sup>th</sup> November 2010

Country of Origin: Iran

Date Reported: 8<sup>th</sup> December 2010

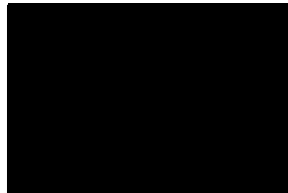
Dear Sir,

Re.: Serotype O

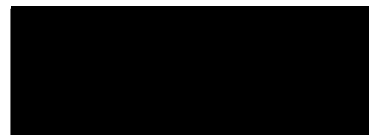
Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at:

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

Results Approved By:

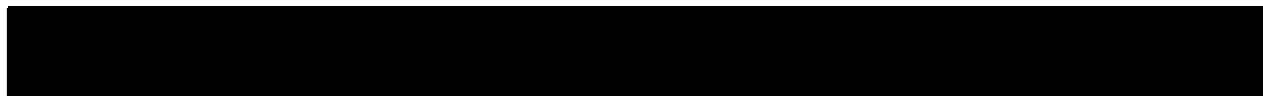


Official Stamp:



Date:

8/12/10



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: 30 November 2010

FMDV type O

Country: Iran

Period: 2010

No. of isolates: 7

BATCH: WRLFMD/2010/00040



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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: 30/11/2010
WRLFMD Ref No: IRN/217/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-196	
Location: West Azerbaijan, Iran	Topotype: ME-SA
Date collected: 17/10/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10217.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
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: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/IRN/194/2010	IRN10194	639	638	0	99.84	0.16	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/83/2010	IRN10-83	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/IRN/209/2010	IRN10209	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/IRN/62/2010	IRN10-62	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/IRN/67/2010	IRN10-67	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/IRN/68/2010	IRN10-68	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/AFG/59/2010	AFG10-59	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/AFG/61/2010	AFG10-61	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/AFG/65/2010	AFG10-65	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/AFG/66/2010	AFG10-66	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	603	0	94.37	5.63	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	603	0	94.37	5.63	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	580	0	90.77	9.23	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a

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

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Serotype: O	Report date: 30/11/2010
WRLFMD Ref No: IRN/219/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-197	
Location: Ardabil, Iran	Topotype: ME-SA
Date collected: 23/10/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10219.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
Species: Sheep	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: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/IRN/100/2010	IRN10100	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/101/2010	IRN10101	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/IRN/142/2010	IRN10142	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/IRN/181/2010	IRN10181	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/IRN/20/2010	IRN10-20	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/IRN/33/2010	IRN10-33	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/IRN/34/2010	IRN10-34	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/IRN/37/2010	IRN10-37	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/IRN/38/2010	IRN10-38	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/IRN/39/2010	IRN10-39	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/8/2005	IRN05-08	639	602	0	94.21	5.79	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>TER-08</sup>
4	O/IRN/31/2009	IRN09-31	639	599	0	93.74	6.26	ME-SA	PanAsia-2 <sup>FAR-09</sup>
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	593	0	92.80	7.20	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a

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

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Serotype: O	Report date: 30/11/2010
WRLFMD Ref No: IRN/221/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-194	
Location: West Azerbaijan, Iran	Topotype: ME-SA
Date collected: 28/10/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10221.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
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: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/IRN/222/2010	IRN10222	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/223/2010	IRN10223	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/IRN/100/2010	IRN10100	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/IRN/101/2010	IRN10101	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/IRN/142/2010	IRN10142	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/IRN/206/2010	IRN10206	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/IRN/33/2010	IRN10-33	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/IRN/34/2010	IRN10-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/IRN/37/2010	IRN10-37	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 <sup>TER-08</sup>
4	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	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

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Serotype: O	Report date: 30/11/2010
WRLFMD Ref No: IRN/222/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-192	
Location: Esfahan, Iran	Topotype: ME-SA
Date collected: 31/10/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10222.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
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: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/IRN/221/2010	IRN10221	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/223/2010	IRN10223	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/IRN/100/2010	IRN10100	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/IRN/101/2010	IRN10101	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/IRN/142/2010	IRN10142	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/IRN/206/2010	IRN10206	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/IRN/33/2010	IRN10-33	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/IRN/34/2010	IRN10-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/IRN/37/2010	IRN10-37	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 <sup>TER-08</sup>
4	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	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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Page 1 of 1

Serotype: O	Report date: 30/11/2010
WRLFMD Ref No: IRN/223/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-193	
Location: Esfahan, Iran	Topotype: ME-SA
Date collected: 31/10/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10223.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
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: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/IRN/221/2010	IRN10221	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/222/2010	IRN10222	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/IRN/100/2010	IRN10100	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/IRN/101/2010	IRN10101	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/IRN/142/2010	IRN10142	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/IRN/206/2010	IRN10206	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/IRN/33/2010	IRN10-33	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/IRN/34/2010	IRN10-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/IRN/37/2010	IRN10-37	639	636	0	99.53	0.47	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 <sup>TER-08</sup>
4	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Iran-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

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Serotype: O	Report date: 30/11/2010
WRLFMD Ref No: IRN/224/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-191	
Location: Esfahan, Iran	Topotype: ME-SA
Date collected: 01/11/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10224.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
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: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/IRN/62/2010	IRN10-62	639	633	0	99.06	0.94	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/PAK/36/2010	PAK10-36	639	633	0	99.06	0.94	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/AFG/59/2010	AFG10-59	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/AFG/61/2010	AFG10-61	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/AFG/65/2010	AFG10-65	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/AFG/66/2010	AFG10-66	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/AFG/67/2010	AFG10-67	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/AFG/89/2010	AFG10-89	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/IRN/106/2010	IRN10106	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/IRN/120/2010	IRN10120	639	632	0	98.90	1.10	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	628	0	98.28	1.72	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	599	0	93.74	6.26	ME-SA	PanAsia-2 <sup>FAR-09</sup>
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/IRN/18/2010	IRN10-18	639	592	0	92.64	7.36	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	590	0	92.33	7.67	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	589	0	92.18	7.82	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	578	0	90.45	9.55	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	567	0	88.73	11.27	ME-SA	Ind-2001b
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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# FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 30/11/2010
WRLFMD Ref No: IRN/225/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00040	Checked by: D.P. King
Sender Ref: IR-89-198	
Location: Tehran, Iran	Topotype: ME-SA
Date collected: 10/11/2010	Genotype/strain: PanAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 17/11/2010	Sequence filename: IRN10225.SEQ
Date received for sequencing: 25/11/2010	Date sequence last updated: 30/11/2010
Species: Sheep	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2503
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 13 days
	Sequencing time: 5 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/TUR/153/2010* (FMDI)	TUR10-AR	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/TUR/154/2010* (FMDI)	TUR10-AS	639	635	0	99.37	0.63	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/IRN/92/2010	IRN10-92	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/IRN/94/2010	IRN10-94	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/IRN/95/2010	IRN10-95	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/TUR/18/2010	TUR10-18	639	634	0	99.22	0.78	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/IRN/104/2010	IRN10104	639	633	0	99.06	0.94	ME-SA	PanAsia-2 <sup>ANT-10</sup>
8	O/IRN/114/2010	IRN10114	639	633	0	99.06	0.94	ME-SA	PanAsia-2 <sup>ANT-10</sup>
9	O/IRN/180/2010	IRN10180	639	633	0	99.06	0.94	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/IRN/184/2010	IRN10184	639	633	0	99.06	0.94	ME-SA	PanAsia-2 <sup>ANT-10</sup>
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/IRN/88/2009	IRN09-88	639	627	0	98.12	1.88	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>TER-08</sup>
4	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>BAL-09</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 <sup>PUN-10</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b

nt, nucleotides

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