



INSTITUTE FOR ANIMAL HEALTH
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FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00034
Sender Details: [REDACTED]
Date Received: [REDACTED]
Country of Origin: Iran
Date Reported: 29th November 2010

Dear Dr. Otarod,

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: [REDACTED]

Official Stamp: [REDACTED]

Date: 30/11/10

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)

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

Genotyping Report

Report Date for this Batch: 17 November 2010

FMDV type O

Country: Iran

Period: 2010

No. of isolates: 16

BATCH: WRLFMD/2010/00034



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/191/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-163	
Location: Central Khorasan, Iran	Topotype: ME-SA
Date collected: 01/10/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10191.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/198/2010	IRN10198	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/43/2010	IRN10-43	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/93/2010	IRN10-93	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/100/2010	IRN10100	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/101/2010	IRN10101	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/142/2010	IRN10142	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/156/2010	IRN10156	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/20/2010	IRN10-20	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/33/2010	IRN10-33	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/34/2010	IRN10-34	639	631	0	98.75	1.25	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	630	0	98.59	1.41	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/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{SAN-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/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	568	1	89.03	10.97	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/192/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-162	
Location: Qom, Iran	Topotype: ME-SA
Date collected: 03/10/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10192.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
Species: Cattle	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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/UAE/4/2010	UAE10-04	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/160/2010	IRN10160	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/93/2010	IRN10-93	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
4	O/UAE/1/2010	UAE10-01	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
5	O/UAE/2/2010	UAE10-02	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
6	O/UAE/3/2010	UAE10-03	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/100/2010	IRN10100	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/101/2010	IRN10101	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/142/2010	IRN10142	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/20/2010	IRN10-20	639	632	0	98.90	1.10	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	631	0	98.75	1.25	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	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-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	583	0	91.24	8.76	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	566	1	88.71	11.29	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/194/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-166	
Location: Qom, Iran	Topotype: ME-SA
Date collected: 12/10/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10194.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/83/2010	IRN10-83	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/209/2010	IRN10209	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/62/2010	IRN10-62	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/67/2010	IRN10-67	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/68/2010	IRN10-68	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/59/2010	AFG10-59	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/61/2010	AFG10-61	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
8	O/AFG/65/2010	AFG10-65	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/AFG/66/2010	AFG10-66	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/AFG/67/2010	AFG10-67	639	635	0	99.37	0.63	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	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-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	581	0	90.92	9.08	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	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/196/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-171	
Location: North Khorasan, Iran	Topotype: ME-SA
Date collected: 08/08/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10196.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/101/2010	IRN10101	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/142/2010	IRN10142	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/20/2010	IRN10-20	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/33/2010	IRN10-33	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/34/2010	IRN10-34	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/37/2010	IRN10-37	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/38/2010	IRN10-38	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/39/2010	IRN10-39	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/59/2010	IRN10-59	639	635	0	99.37	0.63	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	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	603	0	94.37	5.63	ME-SA	PanAsia-2 ^{FAR-09}
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	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{TER-08}
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	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	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/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/198/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-178	
Location: Kerman, Iran	Topotype: ME-SA
Date collected: 08/08/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10198.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
Species: Cattle	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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/191/2010	IRN10191	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/43/2010	IRN10-43	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/93/2010	IRN10-93	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/100/2010	IRN10100	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/101/2010	IRN10101	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/142/2010	IRN10142	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/156/2010	IRN10156	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/20/2010	IRN10-20	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/33/2010	IRN10-33	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/34/2010	IRN10-34	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	629	0	98.44	1.56	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/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	568	1	89.03	10.97	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	568	0	88.89	11.11	ME-SA	Ind-2001a

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/199/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-186	
Location: Fars, Iran	Topotype: ME-SA
Date collected: 19/08/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10199.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/AFG/59/2010	AFG10-59	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/AFG/61/2010	AFG10-61	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/89/2010	AFG10-89	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/207/2010	IRN10207	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/96/2010	IRN10-96	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/32/2010	AFG10-32	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/34/2010	AFG10-34	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/139/2010	IRN10139	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/183/2010	IRN10183	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/62/2010	IRN10-62	639	633	0	99.06	0.94	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	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	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/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-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	580	0	90.77	9.23	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/202/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-172	
Location: Qazvin, Iran	Topotype: ME-SA
Date collected: 23/08/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10202.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/148/2010	IRN10148	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/76/2010	IRN10-76	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/83/2010	IRN10-83	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/183/2010	IRN10183	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/209/2010	IRN10209	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/62/2010	IRN10-62	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/67/2010	IRN10-67	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/68/2010	IRN10-68	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
9	O/AFG/59/2010	AFG10-59	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/AFG/61/2010	AFG10-61	639	633	0	99.06	0.94	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	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/203/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-185	
Location: Davoodabad, Markazi, Iran	Topotype: ME-SA
Date collected: 23/08/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10203.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/160/2010	IRN10160	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/93/2010	IRN10-93	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/100/2010	IRN10100	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/101/2010	IRN10101	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/142/2010	IRN10142	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/20/2010	IRN10-20	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/33/2010	IRN10-33	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/34/2010	IRN10-34	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/37/2010	IRN10-37	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/38/2010	IRN10-38	639	633	0	99.06	0.94	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	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	605	0	94.68	5.32	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	603	0	94.37	5.63	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	573	1	89.81	10.19	ME-SA	Irn-2001
10	O/UAE/4/2008	UAE08-04	636	570	0	89.62	10.38	ME-SA	Ind-2001c

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/204/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-183	
Location: Esfahan, Iran	Topotype: ME-SA
Date collected: 26/08/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10204.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/175/2010	IRN10175	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/TUR/153/2010* (FMDI)	TUR10-AR	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
3	O/TUR/154/2010* (FMDI)	TUR10-AS	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/92/2010	IRN10-92	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/94/2010	IRN10-94	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/95/2010	IRN10-95	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/TUR/18/2010	TUR10-18	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/104/2010	IRN10104	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/114/2010	IRN10114	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/180/2010	IRN10180	639	633	0	99.06	0.94	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	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	602	0	94.21	5.79	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	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	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/205/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-180	
Location: Qom, Iran	Topotype: ME-SA
Date collected: 07/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10205.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/71/2010	IRN10-71	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/100/2010	IRN10100	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/101/2010	IRN10101	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/142/2010	IRN10142	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/20/2010	IRN10-20	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/33/2010	IRN10-33	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/34/2010	IRN10-34	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/37/2010	IRN10-37	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/38/2010	IRN10-38	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/39/2010	IRN10-39	639	632	0	98.90	1.10	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	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	602	0	94.21	5.79	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{SAN-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	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/206/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-187	
Location: Fathabad, Fars, Iran	Topotype: ME-SA
Date collected: 19/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10206.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/101/2010	IRN10101	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/142/2010	IRN10142	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/20/2010	IRN10-20	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/33/2010	IRN10-33	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/34/2010	IRN10-34	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/37/2010	IRN10-37	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/38/2010	IRN10-38	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/39/2010	IRN10-39	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/40/2010	IRN10-40	639	633	0	99.06	0.94	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	632	0	98.90	1.10	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	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	568	0	88.89	11.11	ME-SA	Ind-2001b
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: 17/11/2010
WRLFMD Ref No: IRN/207/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-182	
Location: Fars, Iran	Topotype: ME-SA
Date collected: 23/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10207.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/AFG/59/2010	AFG10-59	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
2	O/AFG/61/2010	AFG10-61	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/89/2010	AFG10-89	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/96/2010	IRN10-96	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/32/2010	AFG10-32	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/34/2010	AFG10-34	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/139/2010	IRN10139	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/183/2010	IRN10183	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/199/2010	IRN10199	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/62/2010	IRN10-62	639	634	0	99.22	0.78	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	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-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	583	0	91.24	8.76	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/208/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-184	
Location: West Azerbaijan, Iran	Topotype: ME-SA
Date collected: 26/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10208.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/101/2010	IRN10101	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/142/2010	IRN10142	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/33/2010	IRN10-33	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/34/2010	IRN10-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/37/2010	IRN10-37	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/38/2010	IRN10-38	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/39/2010	IRN10-39	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/59/2010	IRN10-59	639	636	0	99.53	0.47	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	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-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/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/209/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-170	
Location: Qazvin, Iran	Topotype: ME-SA
Date collected: 27/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10209.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/83/2010	IRN10-83	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/62/2010	IRN10-62	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/67/2010	IRN10-67	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/68/2010	IRN10-68	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/59/2010	AFG10-59	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/61/2010	AFG10-61	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/65/2010	AFG10-65	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/AFG/66/2010	AFG10-66	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/AFG/67/2010	AFG10-67	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/AFG/89/2010	AFG10-89	639	636	0	99.53	0.47	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	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	605	0	94.68	5.32	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	605	0	94.68	5.32	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	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/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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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/210/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-175	
Location: Sharifabad Village, Qom, Iran	Topotype: ME-SA
Date collected: 27/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10210.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/211/2010	IRN10211	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/208/2010	IRN10208	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/100/2010	IRN10100	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/101/2010	IRN10101	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/142/2010	IRN10142	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/20/2010	IRN10-20	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/33/2010	IRN10-33	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/34/2010	IRN10-34	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/37/2010	IRN10-37	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/38/2010	IRN10-38	639	634	0	99.22	0.78	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	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-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	585	0	91.55	8.45	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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Serotype: O	Report date: 17/11/2010
WRLFMD Ref No: IRN/211/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00034	Checked by: D.P. King
Sender Ref: IR-89-176	
Location: Sharifabad Village, Qom, Iran	Topotype: ME-SA
Date collected: 27/09/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 25/10/2010	Sequence filename: IRN10211.SEQ
Date received for sequencing: 12/11/2010	Date sequence last updated: 17/11/2010
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: 2492
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 23 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/210/2010	IRN10210	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/208/2010	IRN10208	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/100/2010	IRN10100	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/101/2010	IRN10101	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/142/2010	IRN10142	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/20/2010	IRN10-20	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/33/2010	IRN10-33	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/34/2010	IRN10-34	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/37/2010	IRN10-37	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/38/2010	IRN10-38	639	634	0	99.22	0.78	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	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-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	585	0	91.55	8.45	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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Report on FMDV O in Iran in 2010

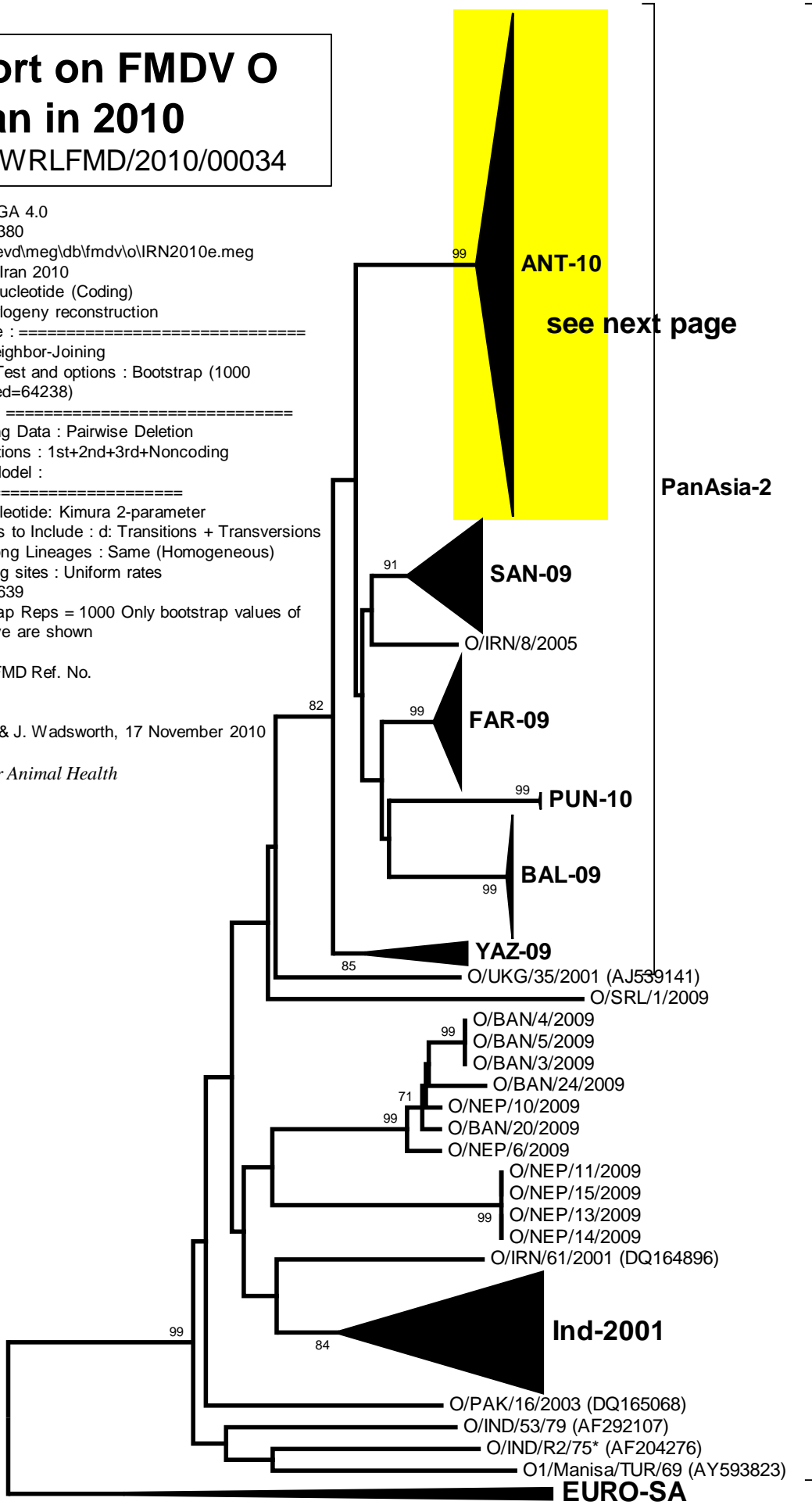
Batch: WRLFMD/2010/00034

Software: MEGA 4.0
 No. of Taxa : 380
 Data File : n:\evd\meg\db\fmdv\o\IRN2010e.meg
 Data Title : O Iran 2010
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (1000 replicates; seed=64238)
 Include Sites : =====
 ->Gaps/Missing Data : Pairwise Deletion
 ->Codon Positions : 1st+2nd+3rd+Noncoding
 Substitution Model :
 =====
 ->Model : Nucleotide: Kimura 2-parameter
 ->Substitutions to Include : d: Transitions + Transversions
 ->Pattern among Lineages : Same (Homogeneous)
 ->Rates among sites : Uniform rates
 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, 17 November 2010

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Report on FMDV O in Iran in 2010

Batch: WRLFMD/2010/00034

PanAsia-2ANT-10

