

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

## Genotyping Report

Date: 20 April 2010

FMDV type O

Country: Iran

Period: 2009-2010

No. of isolates: 35

BATCH: WRLFMD/2010/00011



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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: 19/04/2010
WRLFMD Ref No: IRN/79/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-109	
Location: Shafit, Gillan, Iran	Topotype: ME-SA
Date collected: 09/11/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-79.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/31/2009	IRN09-31	639	635	0	99.37	0.63	ME-SA	PanAsia-2
2	O/IRN/52/2009	IRN09-52	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/60/2009	IRN09-60	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/SAU/1/2009	SAU09-01	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/SAU/2/2009	SAU09-02	639	635	0	99.37	0.63	ME-SA	PanAsia-2
6	O/IRN/41/2009	IRN09-41	639	634	0	99.22	0.78	ME-SA	PanAsia-2
7	O/IRN/42/2009	IRN09-42	639	634	0	99.22	0.78	ME-SA	PanAsia-2
8	O/IRN/43/2009	IRN09-43	639	634	0	99.22	0.78	ME-SA	PanAsia-2
9	O/IRN/49/2009	IRN09-49	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/61/2009	IRN09-61	639	634	0	99.22	0.78	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	607	0	94.99	5.01	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	597	0	93.43	6.57	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	579	0	90.61	9.39	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	577	0	90.30	9.70	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
7	O/BHU/3/2009	BHU09-03	639	571	0	89.36	10.64	ME-SA	Ind-2001d
8	O/UAE/4/2008	UAE08-04	636	567	0	89.15	10.85	ME-SA	Ind-2001c
9	O/IND/53/79 (AF292107)	IND79A53	639	566	0	88.58	11.42	ME-SA	unnamed
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	562	0	87.95	12.05	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/80/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-107	
Location: Foman, Gillan, Iran	Topotype: ME-SA
Date collected: 19/11/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-80.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/61/2009	IRN09-61	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	637	0	99.69	0.31	ME-SA	PanAsia-2
3	O/IRN/60/2009	IRN09-60	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/42/2009	IRN09-42	639	636	0	99.53	0.47	ME-SA	PanAsia-2
5	O/IRN/43/2009	IRN09-43	639	636	0	99.53	0.47	ME-SA	PanAsia-2
6	O/IRN/49/2009	IRN09-49	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/76/2009	IRN09-76	639	636	0	99.53	0.47	ME-SA	PanAsia-2
8	O/IRN/83/2009	IRN09-83	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/84/2009	IRN09-84	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/34/2009	IRN09-34	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	609	0	95.31	4.69	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	595	0	93.11	6.89	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	579	0	90.61	9.39	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	577	0	90.30	9.70	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	573	0	89.67	10.33	ME-SA	Pak-98
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
7	O/UAE/4/2008	UAE08-04	636	569	0	89.47	10.53	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	571	0	89.36	10.64	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	570	0	89.20	10.80	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/81/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR88-105	
Location: Sabzevar, Khorasan Razavi, Iran	Topotype: ME-SA
Date collected: 01/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-81.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 15/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/5/2010	IRN10-05	639	637	0	99.69	0.31	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	636	0	99.53	0.47	ME-SA	PanAsia-2
3	O/IRN/60/2009	IRN09-60	639	636	0	99.53	0.47	ME-SA	PanAsia-2
4	O/IRN/42/2009	IRN09-42	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/IRN/43/2009	IRN09-43	639	635	0	99.37	0.63	ME-SA	PanAsia-2
6	O/IRN/49/2009	IRN09-49	639	635	0	99.37	0.63	ME-SA	PanAsia-2
7	O/IRN/61/2009	IRN09-61	639	635	0	99.37	0.63	ME-SA	PanAsia-2
8	O/IRN/76/2009	IRN09-76	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/83/2009	IRN09-83	639	635	0	99.37	0.63	ME-SA	PanAsia-2
10	O/IRN/84/2009	IRN09-84	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	596	0	93.27	6.73	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	580	0	90.77	9.23	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	578	0	90.45	9.55	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	573	1	89.81	10.19	ME-SA	Irn-2001
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	573	0	89.67	10.33	ME-SA	Pak-98
7	O/IND/53/79 (AF292107)	IND79A53	639	571	0	89.36	10.64	ME-SA	unnamed
8	O/UAE/4/2008	UAE08-04	636	568	0	89.31	10.69	ME-SA	Ind-2001c
9	O/BHU/3/2009	BHU09-03	639	570	0	89.20	10.80	ME-SA	Ind-2001d
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	567	0	88.73	11.27	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/83/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-106	
Location: Shahryar, Teheran, Iran	Topotype: ME-SA
Date collected: 13/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-83.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 15/04/2010
Species: Not Known	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C283F/EUR-2B52R	Total no. of comparisons: 2355
	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/31/2009	IRN09-31	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	O/IRN/60/2009	IRN09-60	639	638	0	99.84	0.16	ME-SA	PanAsia-2
3	O/IRN/42/2009	IRN09-42	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/43/2009	IRN09-43	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/49/2009	IRN09-49	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/61/2009	IRN09-61	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/76/2009	IRN09-76	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/84/2009	IRN09-84	639	637	0	99.69	0.31	ME-SA	PanAsia-2
9	O/IRN/34/2009	IRN09-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/51/2009	IRN09-51	639	636	0	99.53	0.47	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	610	0	95.46	4.54	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	596	0	93.27	6.73	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	580	0	90.77	9.23	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	578	0	90.45	9.55	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	574	0	89.83	10.17	ME-SA	Pak-98
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	573	1	89.81	10.19	ME-SA	Irn-2001
7	O/BHU/3/2009	BHU09-03	639	572	0	89.51	10.49	ME-SA	Ind-2001d
8	O/IND/53/79 (AF292107)	IND79A53	639	571	0	89.36	10.64	ME-SA	unnamed
9	O/UAE/4/2008	UAE08-04	636	568	0	89.31	10.69	ME-SA	Ind-2001c
10	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/84/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR b88-108	
Location: Tabriz, East Azar, Iran	Topotype: ME-SA
Date collected: 13/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-84.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
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Comments:	

Most Closely Related Viruses									
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3	O/IRN/42/2009	IRN09-42	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/43/2009	IRN09-43	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/49/2009	IRN09-49	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/61/2009	IRN09-61	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/76/2009	IRN09-76	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/83/2009	IRN09-83	639	637	0	99.69	0.31	ME-SA	PanAsia-2
9	O/IRN/34/2009	IRN09-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/51/2009	IRN09-51	639	636	0	99.53	0.47	ME-SA	PanAsia-2
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
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4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	578	0	90.45	9.55	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	573	1	89.81	10.19	ME-SA	Irn-2001
6	O/BHU/3/2009	BHU09-03	639	572	0	89.51	10.49	ME-SA	Ind-2001d
7	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
8	O/UAE/4/2008	UAE08-04	636	568	0	89.31	10.69	ME-SA	Ind-2001c
9	O/IND/53/79 (AF292107)	IND79A53	639	569	0	89.05	10.95	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/85/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-111	
Location: Anzali, Gillan, Iran	Topotype: ME-SA
Date collected: 15/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-85.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
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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/43/2009	IRN09-43	639	635	0	99.37	0.63	ME-SA	PanAsia-2
2	O/IRN/84/2009	IRN09-84	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	634	0	99.22	0.78	ME-SA	PanAsia-2
4	O/IRN/60/2009	IRN09-60	639	634	0	99.22	0.78	ME-SA	PanAsia-2
5	O/IRN/42/2009	IRN09-42	639	633	0	99.06	0.94	ME-SA	PanAsia-2
6	O/IRN/49/2009	IRN09-49	639	633	0	99.06	0.94	ME-SA	PanAsia-2
7	O/IRN/61/2009	IRN09-61	639	633	0	99.06	0.94	ME-SA	PanAsia-2
8	O/IRN/76/2009	IRN09-76	639	633	0	99.06	0.94	ME-SA	PanAsia-2
9	O/IRN/83/2009	IRN09-83	639	633	0	99.06	0.94	ME-SA	PanAsia-2
10	O/IRN/1/2010	IRN10-01	639	632	0	98.90	1.10	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	592	0	92.64	7.36	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	576	0	90.14	9.86	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	574	0	89.83	10.17	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	568	0	88.89	11.11	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	567	0	88.73	11.27	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	560	0	87.64	12.36	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/86/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-110	
Location: Borin Zahra, Qazvin, Iran	Topotype: ME-SA
Date collected: 21/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-86.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/71/2009	IRN09-71	639	636	0	99.53	0.47	ME-SA	PanAsia-2
2	O/IRN/23/2010	IRN10-23	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/24/2010	IRN10-24	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/IRN/22/2007	IRN07-22	639	623	0	97.50	2.50	ME-SA	PanAsia-2
5	O/PAK/15/2007	PAK07-15	639	623	0	97.50	2.50	ME-SA	PanAsia-2
6	O/PAK/21/2007	PAK07-21	639	623	0	97.50	2.50	ME-SA	PanAsia-2
7	O/PAK/35/2005 (FJ798166)	PAK05-35	639	623	0	97.50	2.50	ME-SA	PanAsia-2
8	O/PAK/56/2007 (FJ798180)	PAK07-56	639	623	0	97.50	2.50	ME-SA	PanAsia-2
9	O/PAK/60/2006 (FJ798168)	PAK06-60	639	623	0	97.50	2.50	ME-SA	PanAsia-2
10	O/PAK/63/2006 (FJ798170)	PAK06-63	639	623	0	97.50	2.50	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	590	0	92.33	7.67	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	583	0	91.24	8.76	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	577	0	90.30	9.70	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	575	1	90.13	9.87	ME-SA	Irn-2001
6	O/UAE/4/2008	UAE08-04	636	573	0	90.09	9.91	ME-SA	Ind-2001c
7	O/IND/53/79 (AF292107)	IND79A53	639	569	0	89.05	10.95	ME-SA	unnamed
8	O/BHU/3/2009	BHU09-03	639	568	0	88.89	11.11	ME-SA	Ind-2001d
9	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	566	0	88.58	11.42	ME-SA	unnamed
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	564	0	88.26	11.74	ME-SA	Pak-98

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/87/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-113	
Location: Dastjerde, Esfahan, Iran	Topotype: ME-SA
Date collected: 21/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-87.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/31/2009	IRN09-31	639	637	0	99.69	0.31	ME-SA	PanAsia-2
2	O/IRN/60/2009	IRN09-60	639	637	0	99.69	0.31	ME-SA	PanAsia-2
3	O/IRN/42/2009	IRN09-42	639	636	0	99.53	0.47	ME-SA	PanAsia-2
4	O/IRN/43/2009	IRN09-43	639	636	0	99.53	0.47	ME-SA	PanAsia-2
5	O/IRN/49/2009	IRN09-49	639	636	0	99.53	0.47	ME-SA	PanAsia-2
6	O/IRN/56/2009	IRN09-56	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/61/2009	IRN09-61	639	636	0	99.53	0.47	ME-SA	PanAsia-2
8	O/IRN/76/2009	IRN09-76	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/83/2009	IRN09-83	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/84/2009	IRN09-84	639	636	0	99.53	0.47	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	612	0	95.77	4.23	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	598	0	93.58	6.42	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	582	0	91.08	8.92	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	580	0	90.77	9.23	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	575	1	90.13	9.87	ME-SA	Irn-2001
6	O/BHU/3/2009	BHU09-03	639	574	0	89.83	10.17	ME-SA	Ind-2001d
7	O/PAK/16/2003 (DQ165068)	PAK03-16	639	574	0	89.83	10.17	ME-SA	Pak-98
8	O/IND/53/79 (AF292107)	IND79A53	639	571	0	89.36	10.64	ME-SA	unnamed
9	O/UAE/4/2008	UAE08-04	636	568	0	89.31	10.69	ME-SA	Ind-2001c
10	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/88/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-114	
Location: Esfahan, Esfahan, Iran	Topotype: ME-SA
Date collected: 21/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-88.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/20/2010	IRN10-20	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
3	O/IRN/15/2010	IRN10-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/19/2010	IRN10-19	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/27/2010	IRN10-27	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/12/2010	IRN10-12	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	565	0	88.84	11.16	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	566	0	88.58	11.42	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	565	0	88.42	11.58	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/89/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: ir 88-112	
Location: Abarkooh, Yazd, Iran	Topotype: ME-SA
Date collected: 29/12/2009	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-89.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/83/2009	IRN09-83	639	636	0	99.53	0.47	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/60/2009	IRN09-60	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/IRN/42/2009	IRN09-42	639	634	0	99.22	0.78	ME-SA	PanAsia-2
5	O/IRN/43/2009	IRN09-43	639	634	0	99.22	0.78	ME-SA	PanAsia-2
6	O/IRN/49/2009	IRN09-49	639	634	0	99.22	0.78	ME-SA	PanAsia-2
7	O/IRN/61/2009	IRN09-61	639	634	0	99.22	0.78	ME-SA	PanAsia-2
8	O/IRN/76/2009	IRN09-76	639	634	0	99.22	0.78	ME-SA	PanAsia-2
9	O/IRN/84/2009	IRN09-84	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/34/2009	IRN09-34	639	633	0	99.06	0.94	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	593	0	92.80	7.20	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	579	0	90.61	9.39	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	575	0	89.98	10.02	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
7	O/IND/53/79 (AF292107)	IND79A53	639	570	0	89.20	10.80	ME-SA	unnamed
8	O/UAE/4/2008	UAE08-04	636	567	0	89.15	10.85	ME-SA	Ind-2001c
9	O/BHU/3/2009	BHU09-03	639	569	0	89.05	10.95	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/1/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-98	
Location: Seyfabad, Asadabad, Hamedan, Iran	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-01.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/43/2009	IRN09-43	639	636	0	99.53	0.47	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/60/2009	IRN09-60	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/IRN/42/2009	IRN09-42	639	634	0	99.22	0.78	ME-SA	PanAsia-2
5	O/IRN/49/2009	IRN09-49	639	634	0	99.22	0.78	ME-SA	PanAsia-2
6	O/IRN/61/2009	IRN09-61	639	634	0	99.22	0.78	ME-SA	PanAsia-2
7	O/IRN/76/2009	IRN09-76	639	634	0	99.22	0.78	ME-SA	PanAsia-2
8	O/IRN/83/2009	IRN09-83	639	634	0	99.22	0.78	ME-SA	PanAsia-2
9	O/IRN/84/2009	IRN09-84	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/34/2009	IRN09-34	639	633	0	99.06	0.94	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	610	0	95.46	4.54	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	596	0	93.27	6.73	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	582	0	91.08	8.92	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	580	0	90.77	9.23	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	575	1	90.13	9.87	ME-SA	Irn-2001
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	574	0	89.83	10.17	ME-SA	Pak-98
7	O/BHU/3/2009	BHU09-03	639	573	0	89.67	10.33	ME-SA	Ind-2001d
8	O/UAE/4/2008	UAE08-04	636	570	0	89.62	10.38	ME-SA	Ind-2001c
9	O/IND/53/79 (AF292107)	IND79A53	639	571	0	89.36	10.64	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/2/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-88	
Location: Shari fabad, Mehriz, Yazd, Iran	Topotype: ME-SA
Date collected: 02/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-02.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 12/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/11/2010	IRN10-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	638	0	99.84	0.16	?	unnamed
3	O/IRN/12/2010	IRN10-12	639	638	0	99.84	0.16	ME-SA	PanAsia-2
4	O/IRN/30/2010	IRN10-30	639	638	0	99.84	0.16	ME-SA	PanAsia-2
5	O/IRN/4/2010	IRN10-04	639	638	0	99.84	0.16	ME-SA	PanAsia-2
6	O/IRN/20/2010	IRN10-20	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/31/2010	IRN10-31	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/13/2010	IRN10-13	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/14/2010	IRN10-14	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/15/2010	IRN10-15	639	636	0	99.53	0.47	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	607	0	94.99	5.01	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	573	0	89.67	10.33	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
5	O/KUW/3/97 (DQ164904)	KUW97-03	639	571	0	89.36	10.64	ME-SA	Ind-2001a
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	565	0	88.84	11.16	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	565	0	88.42	11.58	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	565	0	88.42	11.58	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/3/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-117	
Location: Natanz, Esfahan, Iran	Topotype: ME-SA
Date collected: 12/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-03.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 12/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
2	O/IRN/22/2010	IRN10-22	639	637	0	99.69	0.31	ME-SA	PanAsia-2
3	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
6	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2
8	O/IRN/12/2010	IRN10-12	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/13/2010	IRN10-13	639	635	0	99.37	0.63	ME-SA	PanAsia-2
10	O/IRN/14/2010	IRN10-14	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	574	0	89.83	10.17	ME-SA	Ind-2001b
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	573	0	89.67	10.33	ME-SA	Pak-98
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	567	0	88.73	11.27	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/4/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-118	
Location: Najf Abad, Esfahanj, Iran	Topotype: ME-SA
Date collected: 16/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-04.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 12/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	639	0	100.00	0.00	?	unnamed
2	O/IRN/30/2010	IRN10-30	639	639	0	100.00	0.00	ME-SA	PanAsia-2
3	O/IRN/11/2010	IRN10-11	639	638	0	99.84	0.16	ME-SA	PanAsia-2
4	O/IRN/2/2010	IRN10-02	639	638	0	99.84	0.16	ME-SA	PanAsia-2
5	O/IRN/20/2010	IRN10-20	639	638	0	99.84	0.16	ME-SA	PanAsia-2
6	O/IRN/12/2010	IRN10-12	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/13/2010	IRN10-13	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/14/2010	IRN10-14	639	637	0	99.69	0.31	ME-SA	PanAsia-2
9	O/IRN/15/2010	IRN10-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2
10	O/IRN/19/2010	IRN10-19	639	637	0	99.69	0.31	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	587	0	91.86	8.14	ME-SA	PanAsia
3	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Iran-2001
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	566	0	88.58	11.42	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	565	0	88.42	11.58	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/5/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-115	
Location: Zarand, Kerman, Iran	Topotype: ME-SA
Date collected: 18/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-05.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 12/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 28 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/81/2009	IRN09-81	639	637	0	99.69	0.31	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	634	0	99.22	0.78	ME-SA	PanAsia-2
3	O/IRN/60/2009	IRN09-60	639	634	0	99.22	0.78	ME-SA	PanAsia-2
4	O/IRN/42/2009	IRN09-42	639	633	0	99.06	0.94	ME-SA	PanAsia-2
5	O/IRN/43/2009	IRN09-43	639	633	0	99.06	0.94	ME-SA	PanAsia-2
6	O/IRN/49/2009	IRN09-49	639	633	0	99.06	0.94	ME-SA	PanAsia-2
7	O/IRN/61/2009	IRN09-61	639	633	0	99.06	0.94	ME-SA	PanAsia-2
8	O/IRN/76/2009	IRN09-76	639	633	0	99.06	0.94	ME-SA	PanAsia-2
9	O/IRN/83/2009	IRN09-83	639	633	0	99.06	0.94	ME-SA	PanAsia-2
10	O/IRN/84/2009	IRN09-84	639	633	0	99.06	0.94	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	594	0	92.96	7.04	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	578	0	90.45	9.55	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	576	0	90.14	9.86	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	573	0	89.67	10.33	ME-SA	Pak-98
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
7	O/UAE/4/2008	UAE08-04	636	568	0	89.31	10.69	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	569	0	89.05	10.95	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	568	0	88.89	11.11	ME-SA	Ind-2001d
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	567	0	88.73	11.27	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/8/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-101	
Location: M Foladi, Esfahan, Esfahan, Iran	Topotype: ME-SA
Date collected: 23/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-08.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/10/2010	IRN10-10	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	631	0	98.75	1.25	ME-SA	PanAsia-2
3	O/IRN/51/2009	IRN09-51	639	631	0	98.75	1.25	ME-SA	PanAsia-2
4	O/IRN/60/2009	IRN09-60	639	631	0	98.75	1.25	ME-SA	PanAsia-2
5	O/IRN/42/2009	IRN09-42	639	630	0	98.59	1.41	ME-SA	PanAsia-2
6	O/IRN/43/2009	IRN09-43	639	630	0	98.59	1.41	ME-SA	PanAsia-2
7	O/IRN/49/2009	IRN09-49	639	630	0	98.59	1.41	ME-SA	PanAsia-2
8	O/IRN/56/2009	IRN09-56	639	630	0	98.59	1.41	ME-SA	PanAsia-2
9	O/IRN/61/2009	IRN09-61	639	630	0	98.59	1.41	ME-SA	PanAsia-2
10	O/IRN/76/2009	IRN09-76	639	630	0	98.59	1.41	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	607	0	94.99	5.01	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	591	0	92.49	7.51	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	577	0	90.30	9.70	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	575	0	89.98	10.02	ME-SA	Ind-2001b
5	O/BHU/3/2009	BHU09-03	639	573	0	89.67	10.33	ME-SA	Ind-2001d
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
7	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
8	O/UAE/4/2008	UAE08-04	636	568	0	89.31	10.69	ME-SA	Ind-2001c
9	O/IND/R2/75* (AF204276)	IND75--A	639	565	0	88.42	11.58	ME-SA	unnamed
10	O/IND/53/79 (AF292107)	IND79A53	639	564	0	88.26	11.74	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/10/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-119	
Location: Esfahan, Esfahan, Iran	Topotype: ME-SA
Date collected: 23/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-10.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/8/2010	IRN10-08	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	O/IRN/31/2009	IRN09-31	639	632	0	98.90	1.10	ME-SA	PanAsia-2
3	O/IRN/51/2009	IRN09-51	639	632	0	98.90	1.10	ME-SA	PanAsia-2
4	O/IRN/60/2009	IRN09-60	639	632	0	98.90	1.10	ME-SA	PanAsia-2
5	O/IRN/42/2009	IRN09-42	639	631	0	98.75	1.25	ME-SA	PanAsia-2
6	O/IRN/43/2009	IRN09-43	639	631	0	98.75	1.25	ME-SA	PanAsia-2
7	O/IRN/49/2009	IRN09-49	639	631	0	98.75	1.25	ME-SA	PanAsia-2
8	O/IRN/56/2009	IRN09-56	639	631	0	98.75	1.25	ME-SA	PanAsia-2
9	O/IRN/61/2009	IRN09-61	639	631	0	98.75	1.25	ME-SA	PanAsia-2
10	O/IRN/76/2009	IRN09-76	639	631	0	98.75	1.25	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	592	0	92.64	7.36	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	578	0	90.45	9.55	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	576	0	90.14	9.86	ME-SA	Ind-2001b
5	O/BHU/3/2009	BHU09-03	639	574	0	89.83	10.17	ME-SA	Ind-2001d
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	573	1	89.81	10.19	ME-SA	Irn-2001
7	O/UAE/4/2008	UAE08-04	636	569	0	89.47	10.53	ME-SA	Ind-2001c
8	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
9	O/IND/53/79 (AF292107)	IND79A53	639	565	0	88.42	11.58	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/11/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-89	
Location: Zarej, Yazd, Yazd, Iran	Topotype: ME-SA
Date collected: 26/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-11.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/2/2010	IRN10-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	638	0	99.84	0.16	?	unnamed
3	O/IRN/12/2010	IRN10-12	639	638	0	99.84	0.16	ME-SA	PanAsia-2
4	O/IRN/30/2010	IRN10-30	639	638	0	99.84	0.16	ME-SA	PanAsia-2
5	O/IRN/4/2010	IRN10-04	639	638	0	99.84	0.16	ME-SA	PanAsia-2
6	O/IRN/20/2010	IRN10-20	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/31/2010	IRN10-31	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/13/2010	IRN10-13	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/14/2010	IRN10-14	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/15/2010	IRN10-15	639	636	0	99.53	0.47	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	607	0	94.99	5.01	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	573	0	89.67	10.33	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
5	O/KUW/3/97 (DQ164904)	KUW97-03	639	571	0	89.36	10.64	ME-SA	Ind-2001a
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	565	0	88.84	11.16	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	565	0	88.42	11.58	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	565	0	88.42	11.58	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/12/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-90	
Location: Zarej, Yazd, Yazd, Iran	Topotype: ME-SA
Date collected: 26/01/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-12.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/11/2010	IRN10-11	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	O/IRN/2/2010	IRN10-02	639	638	0	99.84	0.16	ME-SA	PanAsia-2
3	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
4	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/31/2010	IRN10-31	639	636	0	99.53	0.47	ME-SA	PanAsia-2
8	O/IRN/13/2010	IRN10-13	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/14/2010	IRN10-14	639	635	0	99.37	0.63	ME-SA	PanAsia-2
10	O/IRN/15/2010	IRN10-15	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	574	0	89.83	10.17	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Iran-2001
5	O/KUW/3/97 (DQ164904)	KUW97-03	639	572	0	89.51	10.49	ME-SA	Ind-2001a
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	565	0	88.42	11.58	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/13/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-121	
Location: Neyriz, Fars, Iran	Topotype: ME-SA
Date collected: 02/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-13.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
2	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
3	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
5	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
6	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/12/2010	IRN10-12	639	635	0	99.37	0.63	ME-SA	PanAsia-2
8	O/IRN/14/2010	IRN10-14	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/15/2010	IRN10-15	639	635	0	99.37	0.63	ME-SA	PanAsia-2
10	O/IRN/19/2010	IRN10-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	587	0	91.86	8.14	ME-SA	PanAsia
3	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	564	0	88.26	11.74	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	564	0	88.26	11.74	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/14/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-122	
Location: Matludasht, Fars, Iran	Topotype: ME-SA
Date collected: 03/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-14.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
Species: Not Known	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
2	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
3	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
5	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
6	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/12/2010	IRN10-12	639	635	0	99.37	0.63	ME-SA	PanAsia-2
8	O/IRN/13/2010	IRN10-13	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/15/2010	IRN10-15	639	635	0	99.37	0.63	ME-SA	PanAsia-2
10	O/IRN/19/2010	IRN10-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	607	0	94.99	5.01	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	568	0	88.89	11.11	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	564	0	88.68	11.32	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	565	0	88.42	11.58	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	564	0	88.26	11.74	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: IRN/15/2010 Batch No: WRLFMD/2010/00011 Sender Ref: IR 88-79 Location: Nobaned Bala, Minas, Hormozghan, Iran Date collected: 04/02/2010 Date received by WRLFMD: 18/03/2010 Date received for sequencing: 29/03/2010 Species: Sheep/goats Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 19/04/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 Sequence filename: IRN10-15.SEQ Date sequence last updated: 19/04/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2355 Min. no. of nt for comparison: 300 Total turn-around time: 32 days Sequencing time: 21 days
Comments:	

<b>Most Closely Related Viruses</b>									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/IRN/20/2010	IRN10-20	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
3	O/IRN/19/2010	IRN10-19	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/27/2010	IRN10-27	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/88/2009	IRN09-88	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/12/2010	IRN10-12	639	635	0	99.37	0.63	ME-SA	PanAsia-2
<b>Most Closely Related Reference Viruses</b>									
(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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	565	0	88.84	11.16	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	566	0	88.58	11.42	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	565	0	88.42	11.58	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/17/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-85	
Location: Kahak, Qom, Iran	Topotype: ME-SA
Date collected: 15/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-17.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 19/04/2010
Species: Goats	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/27/2010	IRN10-27	639	637	0	99.69	0.31	ME-SA	PanAsia-2
2	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2
3	FMDV-GD/HKN/22/2010	HKN10-22	639	635	0	99.37	0.63	?	unnamed
4	O/IRN/15/2010	IRN10-15	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/IRN/19/2010	IRN10-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2
6	O/IRN/30/2010	IRN10-30	639	635	0	99.37	0.63	ME-SA	PanAsia-2
7	O/IRN/4/2010	IRN10-04	639	635	0	99.37	0.63	ME-SA	PanAsia-2
8	O/IRN/88/2009	IRN09-88	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/11/2010	IRN10-11	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/2/2010	IRN10-02	639	634	0	99.22	0.78	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Iran-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	566	0	88.58	11.42	ME-SA	unnamed
9	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed
10	O/BHU/3/2009	BHU09-03	639	565	0	88.42	11.58	ME-SA	Ind-2001d

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: 19/04/2010
WRLFMD Ref No: IRN/18/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-81	
Location: Nikroz, Mashad, Khorasan Razavi, Iran	Topotype: ME-SA
Date collected: 16/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-18.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 19/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 days
Comments:	

<b>Most Closely Related Viruses</b>									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/PAK/6/2008 (FJ798193)	PAK08-06	639	617	0	96.56	3.44	ME-SA	PanAsia-2
2	O/PAK/28/2007	PAK07-28	639	615	0	96.24	3.76	ME-SA	PanAsia-2
3	O/PAK/5/2007	PAK07-05	639	615	0	96.24	3.76	ME-SA	PanAsia-2
4	O/PAK/50/2007	PAK07-50	639	615	0	96.24	3.76	ME-SA	PanAsia-2
5	O/IRN/12/2006	IRN06-12	639	614	0	96.09	3.91	ME-SA	PanAsia-2
6	O/IRN/56/2006	IRN06-56	639	614	0	96.09	3.91	ME-SA	PanAsia-2
7	O/PAK/10/2006	PAK06-10	639	614	0	96.09	3.91	ME-SA	PanAsia-2
8	O/PAK/10/2006 (EF494503)	PAK06-AE	639	614	0	96.09	3.91	ME-SA	PanAsia-2
9	O/PAK/16/2006	PAK06-16	639	614	0	96.09	3.91	ME-SA	PanAsia-2
10	O/PAK/22/2007	PAK07-22	639	614	0	96.09	3.91	ME-SA	PanAsia-2
<b>Most Closely Related Reference Viruses</b>									
(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/8/2005	IRN05-08	639	605	0	94.68	5.32	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	589	0	92.18	7.82	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	577	0	90.30	9.70	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
7	O/BHU/3/2009	BHU09-03	639	568	0	88.89	11.11	ME-SA	Ind-2001d
8	O/UAE/4/2008	UAE08-04	636	563	0	88.52	11.48	ME-SA	Ind-2001c
9	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed
10	O/IND/53/79 (AF292107)	IND79A53	639	561	0	87.79	12.21	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: IRN/19/2010 Batch No: WRLFMD/2010/00011 Sender Ref: IR 88-82 Location: Ghozan, Torbat Heydareh, Khorasan Razavi, Iran Date collected: 17/02/2010 Date received by WRLFMD: 18/03/2010 Date received for sequencing: 29/03/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 19/04/2010 Reported by: N.J. Knowles Checked by: D.P. King  Topotype: ME-SA Genotype/strain: PanAsia-2 Sequence filename: IRN10-19.SEQ Date sequence last updated: 15/04/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2355 Min. no. of nt for comparison: 300 Total turn-around time: 32 days Sequencing time: 21 days
Comments:	

<b>Most Closely Related Viruses</b>									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/IRN/20/2010	IRN10-20	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
3	O/IRN/15/2010	IRN10-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/27/2010	IRN10-27	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/88/2009	IRN09-88	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
9	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/12/2010	IRN10-12	639	635	0	99.37	0.63	ME-SA	PanAsia-2
<b>Most Closely Related Reference Viruses</b>									
(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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
7	O/IND/53/79 (AF292107)	IND79A53	639	568	0	88.89	11.11	ME-SA	unnamed
8	O/UAE/4/2008	UAE08-04	636	565	0	88.84	11.16	ME-SA	Ind-2001c
9	O/BHU/3/2009	BHU09-03	639	567	0	88.73	11.27	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	564	0	88.26	11.74	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: IRN/20/2010 Batch No: WRLFMD/2010/00011 Sender Ref: IR 88-83 Location: Majaneh, Zaveh, Khorasan Razavi, Iran Date collected: 17/02/2010 Date received by WRLFMD: 18/03/2010 Date received for sequencing: 29/03/2010 Species: Sheep Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 19/04/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 Sequence filename: IRN10-20.SEQ Date sequence last updated: 15/04/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2355 Min. no. of nt for comparison: 300 Total turn-around time: 32 days Sequencing time: 21 days
Comments:	

<b>Most Closely Related Viruses</b>									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	638	0	99.84	0.16	?	unnamed
2	O/IRN/15/2010	IRN10-15	639	638	0	99.84	0.16	ME-SA	PanAsia-2
3	O/IRN/19/2010	IRN10-19	639	638	0	99.84	0.16	ME-SA	PanAsia-2
4	O/IRN/27/2010	IRN10-27	639	638	0	99.84	0.16	ME-SA	PanAsia-2
5	O/IRN/30/2010	IRN10-30	639	638	0	99.84	0.16	ME-SA	PanAsia-2
6	O/IRN/4/2010	IRN10-04	639	638	0	99.84	0.16	ME-SA	PanAsia-2
7	O/IRN/88/2009	IRN09-88	639	638	0	99.84	0.16	ME-SA	PanAsia-2
8	O/IRN/11/2010	IRN10-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2
9	O/IRN/2/2010	IRN10-02	639	637	0	99.69	0.31	ME-SA	PanAsia-2
10	O/IRN/12/2010	IRN10-12	639	636	0	99.53	0.47	ME-SA	PanAsia-2
<b>Most Closely Related Reference Viruses</b>									
(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/8/2005	IRN05-08	639	607	0	94.99	5.01	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	567	0	88.73	11.27	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	565	0	88.42	11.58	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/22/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-80	
Location: Rika, Ghirva Kazeron, Fars, Iran	Topotype: ME-SA
Date collected: 18/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-22.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
Species: Goats	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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/3/2010	IRN10-03	639	637	0	99.69	0.31	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	635	0	99.37	0.63	?	unnamed
3	O/IRN/30/2010	IRN10-30	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/IRN/4/2010	IRN10-04	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/IRN/11/2010	IRN10-11	639	634	0	99.22	0.78	ME-SA	PanAsia-2
6	O/IRN/2/2010	IRN10-02	639	634	0	99.22	0.78	ME-SA	PanAsia-2
7	O/IRN/20/2010	IRN10-20	639	634	0	99.22	0.78	ME-SA	PanAsia-2
8	O/IRN/12/2010	IRN10-12	639	633	0	99.06	0.94	ME-SA	PanAsia-2
9	O/IRN/13/2010	IRN10-13	639	633	0	99.06	0.94	ME-SA	PanAsia-2
10	O/IRN/14/2010	IRN10-14	639	633	0	99.06	0.94	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
3	O/PAK/16/2003 (DQ165068)	PAK03-16	639	573	0	89.67	10.33	ME-SA	Pak-98
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	568	0	88.89	11.11	ME-SA	Ind-2001a
7	O/IND/53/79 (AF292107)	IND79A53	639	567	0	88.73	11.27	ME-SA	unnamed
8	O/UAE/4/2008	UAE08-04	636	564	0	88.68	11.32	ME-SA	Ind-2001c
9	O/BHU/3/2009	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/23/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-86	
Location: Sarm, Kahar, Qom, Iran	Topotype: ME-SA
Date collected: 20/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-23.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/24/2010	IRN10-24	639	639	0	100.00	0.00	ME-SA	PanAsia-2
2	O/IRN/86/2009	IRN09-86	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/71/2009	IRN09-71	639	634	0	99.22	0.78	ME-SA	PanAsia-2
4	O/IRN/22/2007	IRN07-22	639	621	0	97.18	2.82	ME-SA	PanAsia-2
5	O/PAK/15/2007	PAK07-15	639	621	0	97.18	2.82	ME-SA	PanAsia-2
6	O/PAK/21/2007	PAK07-21	639	621	0	97.18	2.82	ME-SA	PanAsia-2
7	O/PAK/35/2005 (FJ798166)	PAK05-35	639	621	0	97.18	2.82	ME-SA	PanAsia-2
8	O/PAK/56/2007 (FJ798180)	PAK07-56	639	621	0	97.18	2.82	ME-SA	PanAsia-2
9	O/PAK/60/2006 (FJ798168)	PAK06-60	639	621	0	97.18	2.82	ME-SA	PanAsia-2
10	O/PAK/63/2006 (FJ798170)	PAK06-63	639	621	0	97.18	2.82	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	590	0	92.33	7.67	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	585	0	91.55	8.45	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	577	0	90.30	9.70	ME-SA	Ind-2001b
5	O/UAE/4/2008	UAE08-04	636	573	0	90.09	9.91	ME-SA	Ind-2001c
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	574	1	89.97	10.03	ME-SA	Iran-2001
7	O/IND/53/79 (AF292107)	IND79A53	639	569	0	89.05	10.95	ME-SA	unnamed
8	O/BHU/3/2009	BHU09-03	639	568	0	88.89	11.11	ME-SA	Ind-2001d
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	566	0	88.58	11.42	ME-SA	Pak-98
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	566	0	88.58	11.42	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/24/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-87	
Location: saron, Kahak, Qom, Iran	Topotype: ME-SA
Date collected: 20/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-24.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/23/2010	IRN10-23	639	639	0	100.00	0.00	ME-SA	PanAsia-2
2	O/IRN/86/2009	IRN09-86	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/71/2009	IRN09-71	639	634	0	99.22	0.78	ME-SA	PanAsia-2
4	O/IRN/22/2007	IRN07-22	639	621	0	97.18	2.82	ME-SA	PanAsia-2
5	O/PAK/15/2007	PAK07-15	639	621	0	97.18	2.82	ME-SA	PanAsia-2
6	O/PAK/21/2007	PAK07-21	639	621	0	97.18	2.82	ME-SA	PanAsia-2
7	O/PAK/35/2005 (FJ798166)	PAK05-35	639	621	0	97.18	2.82	ME-SA	PanAsia-2
8	O/PAK/56/2007 (FJ798180)	PAK07-56	639	621	0	97.18	2.82	ME-SA	PanAsia-2
9	O/PAK/60/2006 (FJ798168)	PAK06-60	639	621	0	97.18	2.82	ME-SA	PanAsia-2
10	O/PAK/63/2006 (FJ798170)	PAK06-63	639	621	0	97.18	2.82	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	590	0	92.33	7.67	ME-SA	PanAsia
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	585	0	91.55	8.45	ME-SA	Ind-2001a
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	577	0	90.30	9.70	ME-SA	Ind-2001b
5	O/UAE/4/2008	UAE08-04	636	573	0	90.09	9.91	ME-SA	Ind-2001c
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	574	1	89.97	10.03	ME-SA	Irn-2001
7	O/IND/53/79 (AF292107)	IND79A53	639	569	0	89.05	10.95	ME-SA	unnamed
8	O/BHU/3/2009	BHU09-03	639	568	0	88.89	11.11	ME-SA	Ind-2001d
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	566	0	88.58	11.42	ME-SA	Pak-98
10	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	566	0	88.58	11.42	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/26/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-91	
Location: Hossein B, Ratsanjam, Kerman, Iran	Topotype: ME-SA
Date collected: 21/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-26.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 days
Comments:	

<b>Most Closely Related Viruses</b>									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	635	0	99.37	0.63	?	unnamed
2	O/IRN/3/2010	IRN10-03	639	635	0	99.37	0.63	ME-SA	PanAsia-2
3	O/IRN/30/2010	IRN10-30	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/IRN/4/2010	IRN10-04	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/IRN/11/2010	IRN10-11	639	634	0	99.22	0.78	ME-SA	PanAsia-2
6	O/IRN/2/2010	IRN10-02	639	634	0	99.22	0.78	ME-SA	PanAsia-2
7	O/IRN/20/2010	IRN10-20	639	634	0	99.22	0.78	ME-SA	PanAsia-2
8	O/IRN/28/2010	IRN10-28	639	634	0	99.22	0.78	ME-SA	PanAsia-2
9	O/IRN/12/2010	IRN10-12	639	633	0	99.06	0.94	ME-SA	PanAsia-2
10	O/IRN/13/2010	IRN10-13	639	633	0	99.06	0.94	ME-SA	PanAsia-2
<b>Most Closely Related Reference Viruses</b>									
(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/8/2005	IRN05-08	639	606	0	94.84	5.16	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
3	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
4	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	564	0	88.68	11.32	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	564	0	88.26	11.74	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	564	0	88.26	11.74	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/27/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-94	
Location: Tayeghan, Kahak, Qom, Iran	Topotype: ME-SA
Date collected: 21/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-27.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 19/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/20/2010	IRN10-20	639	638	0	99.84	0.16	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	637	0	99.69	0.31	?	unnamed
3	O/IRN/15/2010	IRN10-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2
4	O/IRN/17/2010	IRN10-17	639	637	0	99.69	0.31	ME-SA	PanAsia-2
5	O/IRN/19/2010	IRN10-19	639	637	0	99.69	0.31	ME-SA	PanAsia-2
6	O/IRN/30/2010	IRN10-30	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/4/2010	IRN10-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/88/2009	IRN09-88	639	637	0	99.69	0.31	ME-SA	PanAsia-2
9	O/IRN/11/2010	IRN10-11	639	636	0	99.53	0.47	ME-SA	PanAsia-2
10	O/IRN/2/2010	IRN10-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	573	0	89.67	10.33	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Irn-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	571	0	89.36	10.64	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	567	0	89.15	10.85	ME-SA	Ind-2001c
8	O/IND/53/79 (AF292107)	IND79A53	639	568	0	88.89	11.11	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	567	0	88.73	11.27	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	566	0	88.58	11.42	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: IRN/28/2010 Batch No: WRLFMD/2010/00011 Sender Ref: IR 88-92 Location: M. Mashayakh, Boein Zara, Qazvin, Iran Date collected: 23/02/2010 Date received by WRLFMD: 18/03/2010 Date received for sequencing: 31/03/2010 Species: Cattle Material used: BTY2 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 19/04/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 Sequence filename: IRN10-28.SEQ Date sequence last updated: 15/04/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2355 Min. no. of nt for comparison: 300 Total turn-around time: 32 days Sequencing time: 19 days
Comments:	

<b>Most Closely Related Viruses</b>									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	636	0	99.53	0.47	?	unnamed
2	O/IRN/30/2010	IRN10-30	639	636	0	99.53	0.47	ME-SA	PanAsia-2
3	O/IRN/4/2010	IRN10-04	639	636	0	99.53	0.47	ME-SA	PanAsia-2
4	O/IRN/11/2010	IRN10-11	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/IRN/2/2010	IRN10-02	639	635	0	99.37	0.63	ME-SA	PanAsia-2
6	O/IRN/20/2010	IRN10-20	639	635	0	99.37	0.63	ME-SA	PanAsia-2
7	O/IRN/12/2010	IRN10-12	639	634	0	99.22	0.78	ME-SA	PanAsia-2
8	O/IRN/13/2010	IRN10-13	639	634	0	99.22	0.78	ME-SA	PanAsia-2
9	O/IRN/14/2010	IRN10-14	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/15/2010	IRN10-15	639	634	0	99.22	0.78	ME-SA	PanAsia-2
<b>Most Closely Related Reference Viruses</b>									
(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/8/2005	IRN05-08	639	605	0	94.68	5.32	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
3	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001
4	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	563	0	88.52	11.48	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	563	0	88.11	11.89	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	563	0	88.11	11.89	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	562	0	87.95	12.05	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/29/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-95	
Location: Damshahr, Qom, Qom, Iran	Topotype: ME-SA
Date collected: 23/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-29.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2
2	FMDV-GD/HKN/22/2010	HKN10-22	639	635	0	99.37	0.63	?	unnamed
3	O/IRN/15/2010	IRN10-15	639	635	0	99.37	0.63	ME-SA	PanAsia-2
4	O/IRN/19/2010	IRN10-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2
5	O/IRN/27/2010	IRN10-27	639	635	0	99.37	0.63	ME-SA	PanAsia-2
6	O/IRN/30/2010	IRN10-30	639	635	0	99.37	0.63	ME-SA	PanAsia-2
7	O/IRN/4/2010	IRN10-04	639	635	0	99.37	0.63	ME-SA	PanAsia-2
8	O/IRN/88/2009	IRN09-88	639	635	0	99.37	0.63	ME-SA	PanAsia-2
9	O/IRN/11/2010	IRN10-11	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/2/2010	IRN10-02	639	634	0	99.22	0.78	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	568	1	89.03	10.97	ME-SA	Irn-2001
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	568	0	88.89	11.11	ME-SA	Pak-98
6	O/UAE/4/2008	UAE08-04	636	565	0	88.84	11.16	ME-SA	Ind-2001c
7	O/KUW/3/97 (DQ164904)	KUW97-03	639	567	0	88.73	11.27	ME-SA	Ind-2001a
8	O/IND/53/79 (AF292107)	IND79A53	639	564	0	88.26	11.74	ME-SA	unnamed
9	O/BHU/3/2009	BHU09-03	639	563	0	88.11	11.89	ME-SA	Ind-2001d
10	O/IND/R2/75* (AF204276)	IND75--A	639	563	0	88.11	11.89	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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

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Serotype: O	Report date: 19/04/2010
WRLFMD Ref No: IRN/30/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-96	
Location: Laban, Qom, Qom, Iran	Topotype: ME-SA
Date collected: 23/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-30.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	FMDV-GD/HKN/22/2010	HKN10-22	639	639	0	100.00	0.00	?	unnamed
2	O/IRN/4/2010	IRN10-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2
3	O/IRN/11/2010	IRN10-11	639	638	0	99.84	0.16	ME-SA	PanAsia-2
4	O/IRN/2/2010	IRN10-02	639	638	0	99.84	0.16	ME-SA	PanAsia-2
5	O/IRN/20/2010	IRN10-20	639	638	0	99.84	0.16	ME-SA	PanAsia-2
6	O/IRN/12/2010	IRN10-12	639	637	0	99.69	0.31	ME-SA	PanAsia-2
7	O/IRN/13/2010	IRN10-13	639	637	0	99.69	0.31	ME-SA	PanAsia-2
8	O/IRN/14/2010	IRN10-14	639	637	0	99.69	0.31	ME-SA	PanAsia-2
9	O/IRN/15/2010	IRN10-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2
10	O/IRN/19/2010	IRN10-19	639	637	0	99.69	0.31	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	587	0	91.86	8.14	ME-SA	PanAsia
3	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Iran-2001
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
7	O/UAE/4/2008	UAE08-04	636	566	0	88.99	11.01	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	566	0	88.58	11.42	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	566	0	88.58	11.42	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	565	0	88.42	11.58	ME-SA	unnamed

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: 19/04/2010
WRLFMD Ref No: IRN/31/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-97	
Location: Laban, Qom, Qom, Iran	Topotype: ME-SA
Date collected: 27/02/2010	Genotype/strain: PanAsia-2
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-31.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
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: 2355
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 32 days
	Sequencing time: 21 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/11/2010	IRN10-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2
2	O/IRN/2/2010	IRN10-02	639	637	0	99.69	0.31	ME-SA	PanAsia-2
3	FMDV-GD/HKN/22/2010	HKN10-22	639	636	0	99.53	0.47	?	unnamed
4	O/IRN/12/2010	IRN10-12	639	636	0	99.53	0.47	ME-SA	PanAsia-2
5	O/IRN/30/2010	IRN10-30	639	636	0	99.53	0.47	ME-SA	PanAsia-2
6	O/IRN/4/2010	IRN10-04	639	636	0	99.53	0.47	ME-SA	PanAsia-2
7	O/IRN/20/2010	IRN10-20	639	635	0	99.37	0.63	ME-SA	PanAsia-2
8	O/IRN/13/2010	IRN10-13	639	634	0	99.22	0.78	ME-SA	PanAsia-2
9	O/IRN/14/2010	IRN10-14	639	634	0	99.22	0.78	ME-SA	PanAsia-2
10	O/IRN/15/2010	IRN10-15	639	634	0	99.22	0.78	ME-SA	PanAsia-2
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/8/2005	IRN05-08	639	605	0	94.68	5.32	ME-SA	PanAsia-2
2	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
4	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001
5	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98
7	O/UAE/4/2008	UAE08-04	636	563	0	88.52	11.48	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	563	0	88.11	11.89	ME-SA	Ind-2001d
9	O/IND/53/79 (AF292107)	IND79A53	639	563	0	88.11	11.89	ME-SA	unnamed
10	O/IND/R2/75* (AF204276)	IND75--A	639	562	0	87.95	12.05	ME-SA	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

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# Report on FMDV O in Iran in 2009-2010

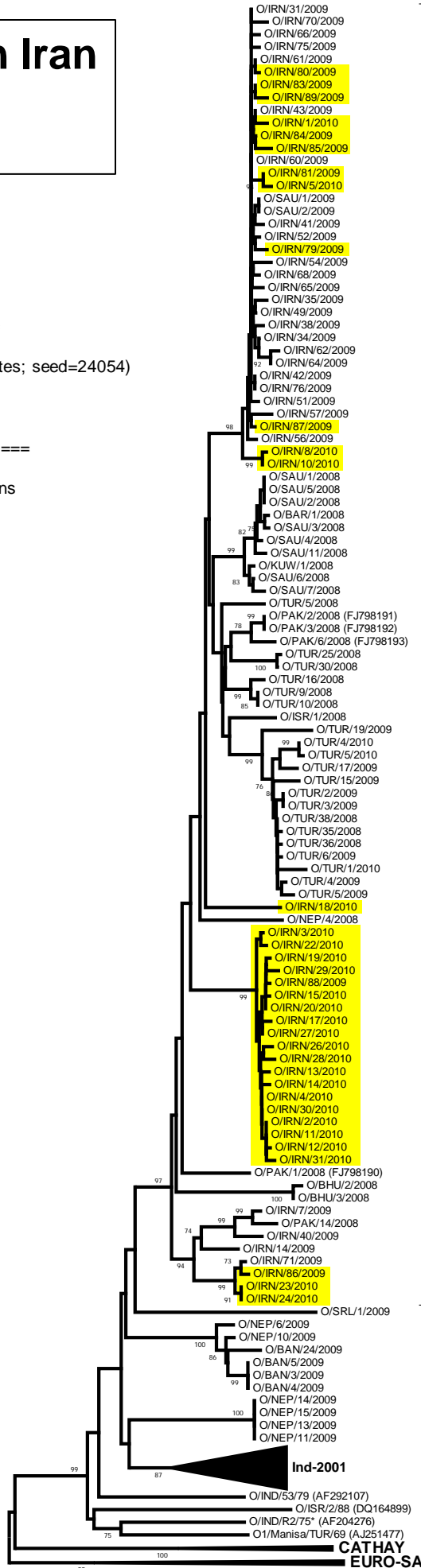
Batch: WRLFMD/2010/00011

Software: MEGA 4.0  
 No. of Taxa : 150  
 Data File : n:\evd\meg\db\fmvdo\O\IRN2010a.meg  
 Data Title : O Iran 2009-2010  
 Data Type : Nucleotide (Coding)  
 Analysis : Phylogeny reconstruction  
 Tree Inference : =====  
 ->Method : Neighbor-Joining  
 ->Phylogeny Test and options : Bootstrap (1000 replicates; seed=24054)  
 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 & F. Hamid, 20 April 2010

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