

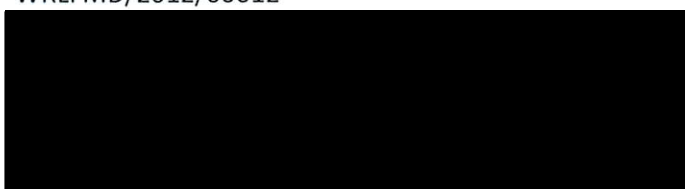


INSTITUTE FOR ANIMAL HEALTH
Director: Professor John Fazakerley BSc, MBA, PhD, FRCPath
PIRBRIGHT LABORATORY
Ash Road,
Pirbright,
Surrey,
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FMD Genotyping Report

Lab Reference WRL Batch Number: WRLFMD/2012/00012

Sender Details:



Date Received: 24th February 2012

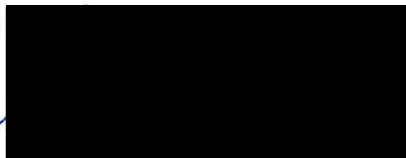
Country of Origin: IRAN

Date Reported: 4th April 2012

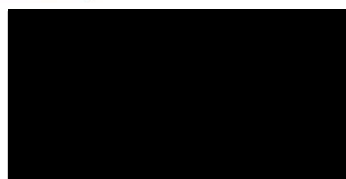
Dear Dr Darab Abdollahi

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

Results Approved By:



Official Stamp:



Date:

4/4/12

A UKAS accredited testing laboratory No. 4025.

To help us improve the quality of our service, please send any suggestions or requests to the Reference Laboratory by fax (+44 (0) 1483 232621 or email: gareth.shimmon@iah.ac.uk. IAH actively seeks and appreciates feedback, if you would like to offer feedback please complete the WRLFMD survey here: <http://www.surveymonkey.com/s/WRLFMD>

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

Genotyping Report

Report Date for this Batch: 3 April 2012

FMDV type Asia 1

Country: Iran

Period: 2011-2012

No. of samples: 17

BATCH: WRLFMD/2012/00012



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/54/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-4 (31110093)	
Location: East Azerbaijan, Iran	Topotype: ASIA
Date collected: 19/09/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-54.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/TUR/1/2012	TUR12-01	633	630	0	99.53	0.47	ASIA	Sindh-08
2	Asia1/IRN/58/2011	IRN11-58	633	629	0	99.37	0.63	ASIA	Sindh-08
3	Asia1/IRN/60/2011	IRN11-60	633	629	0	99.37	0.63	ASIA	Sindh-08
4	Asia1/TUR/76/2011	TUR11-76	633	629	0	99.37	0.63	ASIA	Sindh-08
5	Asia1/IRN/1/2012	IRN12-01	633	628	0	99.21	0.79	ASIA	Sindh-08
6	Asia1/IRN/59/2011	IRN11-59	633	628	0	99.21	0.79	ASIA	Sindh-08
7	Asia1/IRN/67/2011	IRN11-67	633	628	0	99.21	0.79	ASIA	Sindh-08
8	Asia1/IRN/75/2011	IRN11-75	633	628	0	99.21	0.79	ASIA	Sindh-08
9	Asia1/TUR/66/2011	TUR11-66	633	628	0	99.21	0.79	ASIA	Sindh-08
10	Asia1/TUR/67/2011	TUR11-67	633	628	0	99.21	0.79	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	570	0	90.05	9.95	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
4	Asia1/IND/18/80 (DQ121116)	IND80-18	633	533	0	84.20	15.80	ASIA	Group V
5	Asia1/IND/63/72* (AY304994)	IND72C63	630	530	0	84.13	15.87	ASIA	Unnamed
6	Asia1/HKN/19/74	HKN74-19	633	530	0	83.73	16.27	ASIA	Unnamed
7	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
9	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	527	0	83.25	16.75	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	523	0	82.62	17.38	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/56/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-1 (32080105)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 13/10/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-56.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/58/2011	IRN11-58	633	631	0	99.68	0.32	ASIA	Sindh-08
2	Asia1/IRN/60/2011	IRN11-60	633	631	0	99.68	0.32	ASIA	Sindh-08
3	Asia1/IRN/59/2011	IRN11-59	633	630	0	99.53	0.47	ASIA	Sindh-08
4	Asia1/IRN/67/2011	IRN11-67	633	630	0	99.53	0.47	ASIA	Sindh-08
5	Asia1/IRN/75/2011	IRN11-75	633	630	0	99.53	0.47	ASIA	Sindh-08
6	Asia1/TUR/1/2012	TUR12-01	633	630	0	99.53	0.47	ASIA	Sindh-08
7	Asia1/TUR/66/2011	TUR11-66	633	630	0	99.53	0.47	ASIA	Sindh-08
8	Asia1/IRN/74/2011	IRN11-74	633	629	0	99.37	0.63	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	629	0	99.37	0.63	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	629	0	99.37	0.63	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	606	0	95.73	4.27	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	569	0	89.89	10.11	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	540	0	85.31	14.69	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	531	0	84.29	15.71	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	532	0	84.04	15.96	ASIA	Group V
6	Asia1/IND/14/95* (AF390678)	IND95-AA	633	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	528	0	83.41	16.59	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	525	0	82.94	17.06	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	522	0	82.46	17.54	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/58/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-7 (32010528)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 29/10/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-58.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/60/2011	IRN11-60	633	633	0	100.00	0.00	ASIA	Sindh-08
2	Asia1/IRN/59/2011	IRN11-59	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/67/2011	IRN11-67	633	632	0	99.84	0.16	ASIA	Sindh-08
4	Asia1/IRN/75/2011	IRN11-75	633	632	0	99.84	0.16	ASIA	Sindh-08
5	Asia1/TUR/1/2012	TUR12-01	633	632	0	99.84	0.16	ASIA	Sindh-08
6	Asia1/TUR/66/2011	TUR11-66	633	632	0	99.84	0.16	ASIA	Sindh-08
7	Asia1/IRN/56/2011	IRN11-56	633	631	0	99.68	0.32	ASIA	Sindh-08
8	Asia1/IRN/74/2011	IRN11-74	633	631	0	99.68	0.32	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	631	0	99.68	0.32	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	631	0	99.68	0.32	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	608	0	96.05	3.95	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	571	0	90.21	9.79	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	542	0	85.62	14.38	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	533	0	84.60	15.40	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	534	0	84.36	15.64	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	532	0	84.04	15.96	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	531	0	83.89	16.11	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	527	0	83.25	16.75	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1 WRLFMD Ref No: IRN/59/2011 Batch No: WRLFMD/2012/00012 Sender Ref: IR-90-6 (32030143) Location: West Azerbaijan, Iran Date collected: 31/10/2011 Date received by WRLFMD: 24/02/2012 Date received for sequencing: 29/03/2012 Species: Cattle Material used: BTy3 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 03/04/2012 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: ASIA Genotype/strain: Sindh-08 Sequence filename: IRN11-59.SEQ Date sequence last updated: 03/04/2012 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 447 Min. no. of nt for comparison: 600 Total turn-around time: 39 days Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/58/2011	IRN11-58	633	632	0	99.84	0.16	ASIA	Sindh-08
2	Asia1/IRN/60/2011	IRN11-60	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/67/2011	IRN11-67	633	631	0	99.68	0.32	ASIA	Sindh-08
4	Asia1/IRN/75/2011	IRN11-75	633	631	0	99.68	0.32	ASIA	Sindh-08
5	Asia1/TUR/1/2012	TUR12-01	633	631	0	99.68	0.32	ASIA	Sindh-08
6	Asia1/TUR/66/2011	TUR11-66	633	631	0	99.68	0.32	ASIA	Sindh-08
7	Asia1/IRN/56/2011	IRN11-56	633	630	0	99.53	0.47	ASIA	Sindh-08
8	Asia1/IRN/74/2011	IRN11-74	633	630	0	99.53	0.47	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	630	0	99.53	0.47	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	630	0	99.53	0.47	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	607	0	95.89	4.11	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	570	0	90.05	9.95	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	541	0	85.47	14.53	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	533	0	84.20	15.80	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	529	0	83.57	16.43	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	526	0	83.10	16.90	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	523	0	82.62	17.38	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/60/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-5 (32080217)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 08/11/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-60.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/58/2011	IRN11-58	633	633	0	100.00	0.00	ASIA	Sindh-08
2	Asia1/IRN/59/2011	IRN11-59	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/67/2011	IRN11-67	633	632	0	99.84	0.16	ASIA	Sindh-08
4	Asia1/IRN/75/2011	IRN11-75	633	632	0	99.84	0.16	ASIA	Sindh-08
5	Asia1/TUR/1/2012	TUR12-01	633	632	0	99.84	0.16	ASIA	Sindh-08
6	Asia1/TUR/66/2011	TUR11-66	633	632	0	99.84	0.16	ASIA	Sindh-08
7	Asia1/IRN/56/2011	IRN11-56	633	631	0	99.68	0.32	ASIA	Sindh-08
8	Asia1/IRN/74/2011	IRN11-74	633	631	0	99.68	0.32	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	631	0	99.68	0.32	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	631	0	99.68	0.32	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	608	0	96.05	3.95	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	571	0	90.21	9.79	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	542	0	85.62	14.38	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	533	0	84.60	15.40	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	534	0	84.36	15.64	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	532	0	84.04	15.96	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	531	0	83.89	16.11	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	527	0	83.25	16.75	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/67/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-13 (32020128)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 20/11/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-67.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/75/2011	IRN11-75	633	633	0	100.00	0.00	ASIA	Sindh-08
2	Asia1/IRN/58/2011	IRN11-58	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/60/2011	IRN11-60	633	632	0	99.84	0.16	ASIA	Sindh-08
4	Asia1/IRN/74/2011	IRN11-74	633	632	0	99.84	0.16	ASIA	Sindh-08
5	Asia1/IRN/59/2011	IRN11-59	633	631	0	99.68	0.32	ASIA	Sindh-08
6	Asia1/TUR/1/2012	TUR12-01	633	631	0	99.68	0.32	ASIA	Sindh-08
7	Asia1/TUR/66/2011	TUR11-66	633	631	0	99.68	0.32	ASIA	Sindh-08
8	Asia1/IRN/56/2011	IRN11-56	633	630	0	99.53	0.47	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	630	0	99.53	0.47	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	630	0	99.53	0.47	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	609	0	96.21	3.79	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	572	0	90.36	9.64	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	541	0	85.47	14.53	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	534	0	84.76	15.24	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	533	0	84.20	15.80	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	533	0	84.20	15.80	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	532	0	84.04	15.96	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	531	0	83.89	16.11	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	528	0	83.41	16.59	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	525	0	82.94	17.06	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/73/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-22 (11010165)	
Location: Abhar, Zanjan, Iran	Topotype: ASIA
Date collected: 25/12/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-73.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/67/2011	IRN11-67	633	625	0	98.74	1.26	ASIA	Sindh-08
2	Asia1/IRN/75/2011	IRN11-75	633	625	0	98.74	1.26	ASIA	Sindh-08
3	Asia1/IRN/56/2011	IRN11-56	633	624	0	98.58	1.42	ASIA	Sindh-08
4	Asia1/IRN/58/2011	IRN11-58	633	624	0	98.58	1.42	ASIA	Sindh-08
5	Asia1/IRN/60/2011	IRN11-60	633	624	0	98.58	1.42	ASIA	Sindh-08
6	Asia1/IRN/74/2011	IRN11-74	633	624	0	98.58	1.42	ASIA	Sindh-08
7	Asia1/IRN/59/2011	IRN11-59	633	623	0	98.42	1.58	ASIA	Sindh-08
8	Asia1/TUR/1/2012	TUR12-01	633	623	0	98.42	1.58	ASIA	Sindh-08
9	Asia1/TUR/66/2011	TUR11-66	633	623	0	98.42	1.58	ASIA	Sindh-08
10	Asia1/IRN/39/2011	IRN11-39	633	622	0	98.26	1.74	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	567	0	89.57	10.43	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	536	0	84.68	15.32	ASIA	Group III
4	Asia1/IND/14/95* (AF390678)	IND95-AA	633	531	0	83.89	16.11	ASIA	Unnamed
5	Asia1/IND/63/72* (AY304994)	IND72C63	630	528	0	83.81	16.19	ASIA	Unnamed
6	Asia1/Shamir/ISR/89	ISR89--A	633	528	0	83.41	16.59	ASIA	Unnamed
7	Asia1/IND/18/80 (DQ121116)	IND80-18	633	526	0	83.10	16.90	ASIA	Group V
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	526	0	83.10	16.90	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	520	0	82.15	17.85	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	520	0	82.15	17.85	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/74/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-38 (32080116)	
Location: Miyan Doab, West Azerbaijan, Iran	Topotype: ASIA
Date collected: 25/12/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-74.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/67/2011	IRN11-67	633	632	0	99.84	0.16	ASIA	Sindh-08
2	Asia1/IRN/75/2011	IRN11-75	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/58/2011	IRN11-58	633	631	0	99.68	0.32	ASIA	Sindh-08
4	Asia1/IRN/60/2011	IRN11-60	633	631	0	99.68	0.32	ASIA	Sindh-08
5	Asia1/IRN/59/2011	IRN11-59	633	630	0	99.53	0.47	ASIA	Sindh-08
6	Asia1/TUR/1/2012	TUR12-01	633	630	0	99.53	0.47	ASIA	Sindh-08
7	Asia1/TUR/66/2011	TUR11-66	633	630	0	99.53	0.47	ASIA	Sindh-08
8	Asia1/IRN/56/2011	IRN11-56	633	629	0	99.37	0.63	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	629	0	99.37	0.63	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	629	0	99.37	0.63	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	608	0	96.05	3.95	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	571	0	90.21	9.79	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	540	0	85.31	14.69	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	534	0	84.76	15.24	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	532	0	84.04	15.96	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	532	0	84.04	15.96	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	531	0	83.89	16.11	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	527	0	83.25	16.75	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/75/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-24 (21010010)	
Location: Arak, Markazy, Iran	Topotype: ASIA
Date collected: 26/12/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-75.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/67/2011	IRN11-67	633	633	0	100.00	0.00	ASIA	Sindh-08
2	Asia1/IRN/58/2011	IRN11-58	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/60/2011	IRN11-60	633	632	0	99.84	0.16	ASIA	Sindh-08
4	Asia1/IRN/74/2011	IRN11-74	633	632	0	99.84	0.16	ASIA	Sindh-08
5	Asia1/IRN/59/2011	IRN11-59	633	631	0	99.68	0.32	ASIA	Sindh-08
6	Asia1/TUR/1/2012	TUR12-01	633	631	0	99.68	0.32	ASIA	Sindh-08
7	Asia1/TUR/66/2011	TUR11-66	633	631	0	99.68	0.32	ASIA	Sindh-08
8	Asia1/IRN/56/2011	IRN11-56	633	630	0	99.53	0.47	ASIA	Sindh-08
9	Asia1/TUR/2/2012	TUR12-02	633	630	0	99.53	0.47	ASIA	Sindh-08
10	Asia1/TUR/76/2011	TUR11-76	633	630	0	99.53	0.47	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	609	0	96.21	3.79	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	572	0	90.36	9.64	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	541	0	85.47	14.53	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	534	0	84.76	15.24	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	533	0	84.20	15.80	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	533	0	84.20	15.80	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	532	0	84.04	15.96	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	531	0	83.89	16.11	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	528	0	83.41	16.59	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	525	0	82.94	17.06	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/76/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-26 (10010202)	
Location: Nehbandan, Khozestan, Iran	Topotype: ASIA
Date collected: 27/12/2011	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-76.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/58/2011	IRN11-58	633	630	0	99.53	0.47	ASIA	Sindh-08
2	Asia1/IRN/60/2011	IRN11-60	633	630	0	99.53	0.47	ASIA	Sindh-08
3	Asia1/IRN/59/2011	IRN11-59	633	629	0	99.37	0.63	ASIA	Sindh-08
4	Asia1/IRN/67/2011	IRN11-67	633	629	0	99.37	0.63	ASIA	Sindh-08
5	Asia1/IRN/75/2011	IRN11-75	633	629	0	99.37	0.63	ASIA	Sindh-08
6	Asia1/TUR/1/2012	TUR12-01	633	629	0	99.37	0.63	ASIA	Sindh-08
7	Asia1/TUR/66/2011	TUR11-66	633	629	0	99.37	0.63	ASIA	Sindh-08
8	Asia1/IRN/56/2011	IRN11-56	633	628	0	99.21	0.79	ASIA	Sindh-08
9	Asia1/IRN/74/2011	IRN11-74	633	628	0	99.21	0.79	ASIA	Sindh-08
10	Asia1/TUR/2/2012	TUR12-02	633	628	0	99.21	0.79	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	569	0	89.89	10.11	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	530	0	84.13	15.87	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	531	0	83.89	16.11	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	529	0	83.57	16.43	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	527	0	83.25	16.75	ASIA	Unnamed
9	Asia1/HKN/19/74	HKN74-19	633	524	0	82.78	17.22	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	521	0	82.31	17.69	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/1/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-36 (32010900)	
Location: Urmia, West Azerbaijan, Iran	Topotype: ASIA
Date collected: 01/01/2012	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-01.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/TUR/1/2012	TUR12-01	633	631	0	99.68	0.32	ASIA	Sindh-08
2	Asia1/IRN/58/2011	IRN11-58	633	630	0	99.53	0.47	ASIA	Sindh-08
3	Asia1/IRN/60/2011	IRN11-60	633	630	0	99.53	0.47	ASIA	Sindh-08
4	Asia1/TUR/76/2011	TUR11-76	633	630	0	99.53	0.47	ASIA	Sindh-08
5	Asia1/IRN/59/2011	IRN11-59	633	629	0	99.37	0.63	ASIA	Sindh-08
6	Asia1/IRN/67/2011	IRN11-67	633	629	0	99.37	0.63	ASIA	Sindh-08
7	Asia1/IRN/75/2011	IRN11-75	633	629	0	99.37	0.63	ASIA	Sindh-08
8	Asia1/TUR/66/2011	TUR11-66	633	629	0	99.37	0.63	ASIA	Sindh-08
9	Asia1/TUR/67/2011	TUR11-67	633	629	0	99.37	0.63	ASIA	Sindh-08
10	Asia1/TUR/69/2011	TUR11-69	633	629	0	99.37	0.63	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	570	0	90.05	9.95	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	540	0	85.31	14.69	ASIA	Group III
4	Asia1/IND/18/80 (DQ121116)	IND80-18	633	533	0	84.20	15.80	ASIA	Group V
5	Asia1/IND/63/72* (AY304994)	IND72C63	630	530	0	84.13	15.87	ASIA	Unnamed
6	Asia1/Shamir/ISR/89	ISR89--A	633	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/HKN/19/74	HKN74-19	633	528	0	83.41	16.59	ASIA	Unnamed
8	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
9	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	527	0	83.25	16.75	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	523	0	82.62	17.38	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/2/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-25 (26010002)	
Location: Safariyen, Qom, Iran	Topotype: ASIA
Date collected: 02/01/2012	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-02.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/10/2012	IRN12-10	633	631	0	99.68	0.32	ASIA	Sindh-08
2	Asia1/IRN/6/2012	IRN12-06	633	630	0	99.53	0.47	ASIA	Sindh-08
3	Asia1/IRN/7/2012	IRN12-07	633	630	0	99.53	0.47	ASIA	Sindh-08
4	Asia1/IRN/9/2012	IRN12-09	633	630	0	99.53	0.47	ASIA	Sindh-08
5	Asia1/AFG/66/2011	AFG11-66	633	623	0	98.42	1.58	ASIA	Sindh-08
6	Asia1/AFG/68/2011	AFG11-68	633	623	0	98.42	1.58	ASIA	Sindh-08
7	Asia1/AFG/73/2011	AFG11-73	633	623	0	98.42	1.58	ASIA	Sindh-08
8	Asia1/AFG/78/2011	AFG11-78	633	623	0	98.42	1.58	ASIA	Sindh-08
9	Asia1/IRN/33/2011	IRN11-33	633	623	0	98.42	1.58	ASIA	Sindh-08
10	Asia1/IRN/38/2011	IRN11-38	633	623	0	98.42	1.58	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	604	0	95.42	4.58	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	572	0	90.36	9.64	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	541	0	85.47	14.53	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	534	0	84.36	15.64	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
7	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/HKN/19/74	HKN74-19	633	528	0	83.41	16.59	ASIA	Unnamed
9	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1 WRLFMD Ref No: IRN/3/2012 Batch No: WRLFMD/2012/00012 Sender Ref: IR-90-27 (37090220) Location: Shahryae, Tehran, Iran Date collected: 03/01/2012 Date received by WRLFMD: 24/02/2012 Date received for sequencing: 29/03/2012 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 03/04/2012 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: ASIA Genotype/strain: Sindh-08 Sequence filename: IRN12-03.SEQ Date sequence last updated: 03/04/2012 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 447 Min. no. of nt for comparison: 600 Total turn-around time: 39 days Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/58/2011	IRN11-58	633	628	0	99.21	0.79	ASIA	Sindh-08
2	Asia1/IRN/60/2011	IRN11-60	633	628	0	99.21	0.79	ASIA	Sindh-08
3	Asia1/IRN/59/2011	IRN11-59	633	627	0	99.05	0.95	ASIA	Sindh-08
4	Asia1/IRN/67/2011	IRN11-67	633	627	0	99.05	0.95	ASIA	Sindh-08
5	Asia1/IRN/75/2011	IRN11-75	633	627	0	99.05	0.95	ASIA	Sindh-08
6	Asia1/TUR/1/2012	TUR12-01	633	627	0	99.05	0.95	ASIA	Sindh-08
7	Asia1/TUR/66/2011	TUR11-66	633	627	0	99.05	0.95	ASIA	Sindh-08
8	Asia1/IRN/56/2011	IRN11-56	633	626	0	98.89	1.11	ASIA	Sindh-08
9	Asia1/IRN/74/2011	IRN11-74	633	626	0	98.89	1.11	ASIA	Sindh-08
10	Asia1/TUR/2/2012	TUR12-02	633	626	0	98.89	1.11	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	572	0	90.36	9.64	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	542	0	85.62	14.38	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	533	0	84.60	15.40	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	534	0	84.36	15.64	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	533	0	84.20	15.80	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	528	0	83.41	16.59	ASIA	Group VIb
10	Asia1/HKN/19/74	HKN74-19	633	525	0	82.94	17.06	ASIA	Unnamed

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1 WRLFMD Ref No: IRN/6/2012 Batch No: WRLFMD/2012/00012 Sender Ref: IR-90-33 (20040153) Location: Behsahir, Mazandaran, Iran Date collected: 10/01/2012 Date received by WRLFMD: 24/02/2012 Date received for sequencing: 29/03/2012 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 03/04/2012 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: ASIA Genotype/strain: Sindh-08 Sequence filename: IRN12-06.SEQ Date sequence last updated: 03/04/2012 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 447 Min. no. of nt for comparison: 600 Total turn-around time: 39 days Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/10/2012	IRN12-10	633	632	0	99.84	0.16	ASIA	Sindh-08
2	Asia1/IRN/7/2012	IRN12-07	633	631	0	99.68	0.32	ASIA	Sindh-08
3	Asia1/IRN/9/2012	IRN12-09	633	631	0	99.68	0.32	ASIA	Sindh-08
4	Asia1/IRN/2/2012	IRN12-02	633	630	0	99.53	0.47	ASIA	Sindh-08
5	Asia1/AFG/66/2011	AFG11-66	633	624	0	98.58	1.42	ASIA	Sindh-08
6	Asia1/AFG/68/2011	AFG11-68	633	624	0	98.58	1.42	ASIA	Sindh-08
7	Asia1/AFG/73/2011	AFG11-73	633	624	0	98.58	1.42	ASIA	Sindh-08
8	Asia1/AFG/78/2011	AFG11-78	633	624	0	98.58	1.42	ASIA	Sindh-08
9	Asia1/IRN/33/2011	IRN11-33	633	624	0	98.58	1.42	ASIA	Sindh-08
10	Asia1/IRN/38/2011	IRN11-38	633	624	0	98.58	1.42	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	573	0	90.52	9.48	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	541	0	85.47	14.53	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	534	0	84.36	15.64	ASIA	Group V
6	Asia1/HKN/19/74	HKN74-19	633	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	523	0	82.62	17.38	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/7/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-23 (1800012)	
Location: Astaneh, Gilan, Iran	Topotype: ASIA
Date collected: 12/01/2012	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-07.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/10/2012	IRN12-10	633	632	0	99.84	0.16	ASIA	Sindh-08
2	Asia1/IRN/6/2012	IRN12-06	633	631	0	99.68	0.32	ASIA	Sindh-08
3	Asia1/IRN/9/2012	IRN12-09	633	631	0	99.68	0.32	ASIA	Sindh-08
4	Asia1/IRN/2/2012	IRN12-02	633	630	0	99.53	0.47	ASIA	Sindh-08
5	Asia1/AFG/66/2011	AFG11-66	633	624	0	98.58	1.42	ASIA	Sindh-08
6	Asia1/AFG/68/2011	AFG11-68	633	624	0	98.58	1.42	ASIA	Sindh-08
7	Asia1/AFG/73/2011	AFG11-73	633	624	0	98.58	1.42	ASIA	Sindh-08
8	Asia1/AFG/78/2011	AFG11-78	633	624	0	98.58	1.42	ASIA	Sindh-08
9	Asia1/IRN/33/2011	IRN11-33	633	624	0	98.58	1.42	ASIA	Sindh-08
10	Asia1/IRN/38/2011	IRN11-38	633	624	0	98.58	1.42	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	575	0	90.84	9.16	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	543	0	85.78	14.22	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	534	0	84.76	15.24	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	536	0	84.68	15.32	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	532	0	84.04	15.96	ASIA	Unnamed
7	Asia1/HKN/19/74	HKN74-19	633	531	0	83.89	16.11	ASIA	Unnamed
8	Asia1/IND/14/95* (AF390678)	IND95-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	525	0	82.94	17.06	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1	Report date: 03/04/2012
WRLFMD Ref No: IRN/9/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-34 (21020136)	
Location: Savadkonh, Mazandarin, Iran	Topotype: ASIA
Date collected: 14/01/2012	Genotype/strain: Sindh-08
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-09.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 447
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 39 days
	Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/10/2012	IRN12-10	633	632	0	99.84	0.16	ASIA	Sindh-08
2	Asia1/IRN/6/2012	IRN12-06	633	631	0	99.68	0.32	ASIA	Sindh-08
3	Asia1/IRN/7/2012	IRN12-07	633	631	0	99.68	0.32	ASIA	Sindh-08
4	Asia1/IRN/2/2012	IRN12-02	633	630	0	99.53	0.47	ASIA	Sindh-08
5	Asia1/AFG/66/2011	AFG11-66	633	624	0	98.58	1.42	ASIA	Sindh-08
6	Asia1/AFG/68/2011	AFG11-68	633	624	0	98.58	1.42	ASIA	Sindh-08
7	Asia1/AFG/73/2011	AFG11-73	633	624	0	98.58	1.42	ASIA	Sindh-08
8	Asia1/AFG/78/2011	AFG11-78	633	624	0	98.58	1.42	ASIA	Sindh-08
9	Asia1/IRN/33/2011	IRN11-33	633	624	0	98.58	1.42	ASIA	Sindh-08
10	Asia1/IRN/38/2011	IRN11-38	633	624	0	98.58	1.42	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	605	0	95.58	4.42	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	575	0	90.84	9.16	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	541	0	85.47	14.53	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	534	0	84.36	15.64	ASIA	Group V
6	Asia1/HKN/19/74	HKN74-19	633	530	0	83.73	16.27	ASIA	Unnamed
7	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	523	0	82.62	17.38	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: ASIA1 WRLFMD Ref No: IRN/10/2012 Batch No: WRLFMD/2012/00012 Sender Ref: IR-90-32 (37070123) Location: Robotkarim, Tehran, Iran Date collected: 17/01/2012 Date received by WRLFMD: 24/02/2012 Date received for sequencing: 29/03/2012 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 03/04/2012 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: ASIA Genotype/strain: Sindh-08 Sequence filename: IRN12-10.SEQ Date sequence last updated: 03/04/2012 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 447 Min. no. of nt for comparison: 600 Total turn-around time: 39 days Sequencing time: 5 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/IRN/6/2012	IRN12-06	633	632	0	99.84	0.16	ASIA	Sindh-08
2	Asia1/IRN/7/2012	IRN12-07	633	632	0	99.84	0.16	ASIA	Sindh-08
3	Asia1/IRN/9/2012	IRN12-09	633	632	0	99.84	0.16	ASIA	Sindh-08
4	Asia1/IRN/2/2012	IRN12-02	633	631	0	99.68	0.32	ASIA	Sindh-08
5	Asia1/AFG/66/2011	AFG11-66	633	625	0	98.74	1.26	ASIA	Sindh-08
6	Asia1/AFG/68/2011	AFG11-68	633	625	0	98.74	1.26	ASIA	Sindh-08
7	Asia1/AFG/73/2011	AFG11-73	633	625	0	98.74	1.26	ASIA	Sindh-08
8	Asia1/AFG/78/2011	AFG11-78	633	625	0	98.74	1.26	ASIA	Sindh-08
9	Asia1/IRN/33/2011	IRN11-33	633	625	0	98.74	1.26	ASIA	Sindh-08
10	Asia1/IRN/38/2011	IRN11-38	633	625	0	98.74	1.26	ASIA	Sindh-08
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/PAK/8/2008	PAK08-08	633	606	0	95.73	4.27	ASIA	Sindh-08
2	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	574	0	90.68	9.32	ASIA	Group I
3	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	542	0	85.62	14.38	ASIA	Group III
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	533	0	84.60	15.40	ASIA	Unnamed
5	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
6	Asia1/Shamir/ISR/89	ISR89--A	633	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	531	0	83.89	16.11	ASIA	Unnamed
8	Asia1/HKN/19/74	HKN74-19	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/IND/14/95* (AF390678)	IND95-AA	633	529	0	83.57	16.43	ASIA	Unnamed
10	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV Asia 1 in Iran in 2011-2012

Batch: WRLFMD/2012/00012

◆ indicates viruses in this batch

Software: MEGA 5.0

Analysis

Analysis ----- Phylogeny Reconstruction

Scope ----- All Selected Taxa

Statistical Method ----- Neighbor-joining

Phylogeny Test

Test of Phylogeny ----- Bootstrap method

No. of Bootstrap Replications ----- 1000

Substitution Model

Substitutions Type ----- Nucleotide

Model/Method ----- Kimura 2-parameter model

Substitutions to Include ----- d: Transitions + Transversions

Rates and Patterns

Rates among Sites ----- Uniform rates

Pattern among Lineages ----- Same (Homogeneous)

Data Subset to Use

Gaps/Missing Data Treatment ----- Pairwise deletion

Codons Included ----- 1st+2nd+3rd+Non-Coding

No. of Sites : 633

No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 03 April 2012

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