

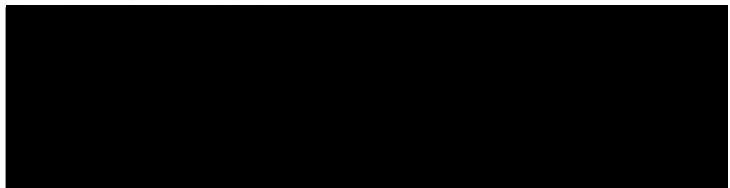


INSTITUTE FOR ANIMAL HEALTH
Director: Professor John Fazakerley BSc, MBA, PhD, FRCPath
PIRBRIGHT LABORATORY
Ash Road,
Pirbright,
Surrey,
GU24 0NF
Intn Tel: 00 44 1483 232441
Tel: 01483 232441 Fax: 01483 232621

FMD Genotyping Report

Lab Reference WRL Batch Number: WRLFMD/2012/00012

Sender Details:



Date Received: 24th February 2012

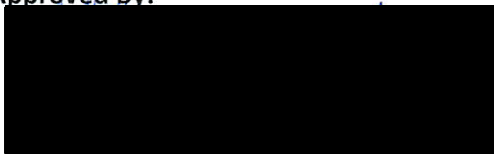
Country of Origin: IRAN

Date Reported: 4th April 2012

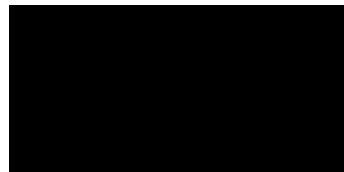
Dear Dr Darab Abdollahi

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 A

Country: Iran

Period: 2011-2012

No. of samples: 9

BATCH: WRLFMD/2012/00012



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/55/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-2 (33050027)	
Location: Esfahan, Iran	Topotype: ASIA
Date collected: 08/10/2011	Genotype/strain: Iran-05 ^{SIS-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-55.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/4/2011	IRN11-04	639	630	0	98.59	1.41	ASIA	Iran-05 ^{SIS-10}
2	A/IRN/18/2011	IRN11-18	639	629	0	98.44	1.56	ASIA	Iran-05 ^{SIS-10}
3	A/IRN/5/2011	IRN11-05	639	629	0	98.44	1.56	ASIA	Iran-05 ^{SIS-10}
4	A/IRN/30/2011	IRN11-30	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
5	A/TUR/5/2011	TUR11-05	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
6	A/TUR/63/2011	TUR11-63	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
7	A/IRN/125/2010	IRN10125	639	627	0	98.12	1.88	ASIA	Iran-05 ^{SIS-10}
8	A/PAK/37/2010	PAK10-37	639	627	0	98.12	1.88	ASIA	Iran-05 ^{SIS-10}
9	A/TUR/10/2011	TUR11-10	639	627	0	98.12	1.88	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/13/2011	TUR11-13	639	627	0	98.12	1.88	ASIA	Iran-05 ^{SIS-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/IRN/125/2010	IRN10125	639	627	0	98.12	1.88	ASIA	Iran-05 ^{SIS-10}
2	A/AFG/6/2007	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/10/2010	AFG10-10	639	596	0	93.27	6.73	ASIA	Iran-05 ^{HER-10}
4	A/BAR/6/2008	BAR08-06	639	596	0	93.27	6.73	ASIA	Iran-05 ^{BAR-08}
5	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
6	A/TUR/1/2008	TUR08-01	639	593	0	92.80	7.20	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	592	0	92.64	7.36	ASIA	Iran-05
8	A/TUR/33/2008	TUR08-33	639	589	0	92.18	7.82	ASIA	Iran-05 ^{EZM-07}
9	A/IRN/9/2010	IRN10-09	639	577	0	90.30	9.70	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	576	0	90.14	9.86	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/63/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-17 (14130051)	
Location: Fars, Iran	Topotype: ASIA
Date collected: 13/11/2011	Genotype/strain: Iran-05 ^{HER-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-63.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/11/2012	IRN12-11	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
2	A/IRN/12/2012	IRN12-12	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
3	A/IRN/5/2012	IRN12-05	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
4	A/IRN/8/2012	IRN12-08	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
5	A/AFG/69/2011	AFG11-69	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
6	A/AFG/71/2011	AFG11-71	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
7	A/AFG/74/2011	AFG11-74	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
8	A/AFG/75/2011	AFG11-75	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
9	A/BAR/18/2011	BAR11-18	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
10	A/AFG/20/2011	AFG11-20	639	625	0	97.81	2.19	ASIA	Iran-05 ^{HER-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/10/2010	AFG10-10	639	622	0	97.34	2.66	ASIA	Iran-05 ^{HER-10}
2	A/AFG/6/2007	AFG07-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	595	0	93.11	6.89	ASIA	Iran-05 ^{FAR-09}
4	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
5	A/BAR/6/2008	BAR08-06	639	591	0	92.49	7.51	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/1/2008	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
8	A/TUR/33/2008	TUR08-33	639	586	0	91.71	8.29	ASIA	Iran-05 ^{EZM-07}
9	A/IRN/9/2010	IRN10-09	639	577	0	90.30	9.70	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	575	0	89.98	10.02	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/65/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-10 (32080327)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 18/11/2011	Genotype/strain: Iran-05 ^{SIS-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-65.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/68/2011	IRN11-68	639	636	0	99.53	0.47	ASIA	Iran-05 ^{SIS-10}
2	A/IRN/69/2011	IRN11-69	639	636	0	99.53	0.47	ASIA	Iran-05 ^{SIS-10}
3	A/TUR/14/2011	TUR11-14	639	626	0	97.97	2.03	ASIA	Iran-05 ^{SIS-10}
4	A/IRN/20/2011	IRN11-20	639	625	0	97.81	2.19	ASIA	Iran-05 ^{SIS-10}
5	A/IRN/52/2011	IRN11-52	639	625	0	97.81	2.19	ASIA	Iran-05 ^{SIS-10}
6	A/TUR/16/2011	TUR11-16	639	622	0	97.34	2.66	ASIA	Iran-05 ^{SIS-10}
7	A/IRN/125/2010	IRN10125	639	621	0	97.18	2.82	ASIA	Iran-05 ^{SIS-10}
8	A/IRN/30/2011	IRN11-30	639	621	0	97.18	2.82	ASIA	Iran-05 ^{SIS-10}
9	A/IRN/4/2011	IRN11-04	639	621	0	97.18	2.82	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/5/2011	TUR11-05	639	621	0	97.18	2.82	ASIA	Iran-05 ^{SIS-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/IRN/125/2010	IRN10125	639	621	0	97.18	2.82	ASIA	Iran-05 ^{SIS-10}
2	A/AFG/6/2007	AFG07-06	639	598	0	93.58	6.42	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
4	A/AFG/10/2010	AFG10-10	639	589	0	92.18	7.82	ASIA	Iran-05 ^{HER-10}
5	A/BAR/6/2008	BAR08-06	639	587	0	91.86	8.14	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/33/2008	TUR08-33	639	587	0	91.86	8.14	ASIA	Iran-05 ^{EZM-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	585	0	91.55	8.45	ASIA	Iran-05
8	A/TUR/1/2008	TUR08-01	639	585	0	91.55	8.45	ASIA	Iran-05 ^{ARD-07}
9	A/IRN/9/2010	IRN10-09	639	573	0	89.67	10.33	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	571	0	89.36	10.64	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/68/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-11 (32080305)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 21/11/2011	Genotype/strain: Iran-05 ^{SIS-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-68.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/69/2011	IRN11-69	639	639	0	100.00	0.00	ASIA	Iran-05 ^{SIS-10}
2	A/IRN/65/2011	IRN11-65	639	636	0	99.53	0.47	ASIA	Iran-05 ^{SIS-10}
3	A/TUR/14/2011	TUR11-14	639	629	0	98.44	1.56	ASIA	Iran-05 ^{SIS-10}
4	A/IRN/20/2011	IRN11-20	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
5	A/IRN/52/2011	IRN11-52	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
6	A/TUR/16/2011	TUR11-16	639	625	0	97.81	2.19	ASIA	Iran-05 ^{SIS-10}
7	A/IRN/125/2010	IRN10125	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
8	A/IRN/30/2011	IRN11-30	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
9	A/IRN/4/2011	IRN11-04	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/5/2011	TUR11-05	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/IRN/125/2010	IRN10125	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
2	A/AFG/6/2007	AFG07-06	639	601	0	94.05	5.95	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	597	0	93.43	6.57	ASIA	Iran-05 ^{FAR-09}
4	A/AFG/10/2010	AFG10-10	639	592	0	92.64	7.36	ASIA	Iran-05 ^{HER-10}
5	A/BAR/6/2008	BAR08-06	639	590	0	92.33	7.67	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/33/2008	TUR08-33	639	590	0	92.33	7.67	ASIA	Iran-05 ^{EZM-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	588	0	92.02	7.98	ASIA	Iran-05
8	A/TUR/1/2008	TUR08-01	639	588	0	92.02	7.98	ASIA	Iran-05 ^{ARD-07}
9	A/IRN/9/2010	IRN10-09	639	576	0	90.14	9.86	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	574	0	89.83	10.17	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/69/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-12 (32080214)	
Location: West Azerbaijan, Iran	Topotype: ASIA
Date collected: 21/11/2011	Genotype/strain: Iran-05 ^{SIS-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN11-69.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/68/2011	IRN11-68	639	639	0	100.00	0.00	ASIA	Iran-05 ^{SIS-10}
2	A/IRN/65/2011	IRN11-65	639	636	0	99.53	0.47	ASIA	Iran-05 ^{SIS-10}
3	A/TUR/14/2011	TUR11-14	639	629	0	98.44	1.56	ASIA	Iran-05 ^{SIS-10}
4	A/IRN/20/2011	IRN11-20	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
5	A/IRN/52/2011	IRN11-52	639	628	0	98.28	1.72	ASIA	Iran-05 ^{SIS-10}
6	A/TUR/16/2011	TUR11-16	639	625	0	97.81	2.19	ASIA	Iran-05 ^{SIS-10}
7	A/IRN/125/2010	IRN10125	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
8	A/IRN/30/2011	IRN11-30	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
9	A/IRN/4/2011	IRN11-04	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/5/2011	TUR11-05	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/IRN/125/2010	IRN10125	639	624	0	97.65	2.35	ASIA	Iran-05 ^{SIS-10}
2	A/AFG/6/2007	AFG07-06	639	601	0	94.05	5.95	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	597	0	93.43	6.57	ASIA	Iran-05 ^{FAR-09}
4	A/AFG/10/2010	AFG10-10	639	592	0	92.64	7.36	ASIA	Iran-05 ^{HER-10}
5	A/BAR/6/2008	BAR08-06	639	590	0	92.33	7.67	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/33/2008	TUR08-33	639	590	0	92.33	7.67	ASIA	Iran-05 ^{EZM-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	588	0	92.02	7.98	ASIA	Iran-05
8	A/TUR/1/2008	TUR08-01	639	588	0	92.02	7.98	ASIA	Iran-05 ^{ARD-07}
9	A/IRN/9/2010	IRN10-09	639	576	0	90.14	9.86	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	574	0	89.83	10.17	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/5/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-20 (14130078)	
Location: Fars, Iran	Topotype: ASIA
Date collected: 03/01/2012	Genotype/strain: Iran-05 ^{HER-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-05.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/11/2012	IRN12-11	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
2	A/IRN/12/2012	IRN12-12	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
3	A/IRN/63/2011	IRN11-63	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
4	A/IRN/8/2012	IRN12-08	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
5	A/AFG/69/2011	AFG11-69	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
6	A/AFG/71/2011	AFG11-71	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
7	A/AFG/74/2011	AFG11-74	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
8	A/AFG/75/2011	AFG11-75	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
9	A/BAR/18/2011	BAR11-18	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
10	A/AFG/20/2011	AFG11-20	639	625	0	97.81	2.19	ASIA	Iran-05 ^{HER-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/10/2010	AFG10-10	639	622	0	97.34	2.66	ASIA	Iran-05 ^{HER-10}
2	A/AFG/6/2007	AFG07-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	595	0	93.11	6.89	ASIA	Iran-05 ^{FAR-09}
4	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
5	A/BAR/6/2008	BAR08-06	639	591	0	92.49	7.51	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/1/2008	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
8	A/TUR/33/2008	TUR08-33	639	586	0	91.71	8.29	ASIA	Iran-05 ^{EZM-07}
9	A/IRN/9/2010	IRN10-09	639	577	0	90.30	9.70	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	575	0	89.98	10.02	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/8/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-35 (14120007)	
Location: Marvdasht, Fars, Iran	Topotype: ASIA
Date collected: 12/01/2012	Genotype/strain: Iran-05 ^{HER-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-08.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/11/2012	IRN12-11	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
2	A/IRN/12/2012	IRN12-12	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
3	A/IRN/5/2012	IRN12-05	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
4	A/IRN/63/2011	IRN11-63	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
5	A/AFG/69/2011	AFG11-69	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
6	A/AFG/71/2011	AFG11-71	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
7	A/AFG/74/2011	AFG11-74	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
8	A/AFG/75/2011	AFG11-75	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
9	A/BAR/18/2011	BAR11-18	639	623	0	97.50	2.50	ASIA	Iran-05 ^{HER-10}
10	A/IRN/134/2010	IRN10134	639	623	0	97.50	2.50	ASIA	Iran-05 ^{HER-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/10/2010	AFG10-10	639	621	0	97.18	2.82	ASIA	Iran-05 ^{HER-10}
2	A/AFG/6/2007	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	594	0	92.96	7.04	ASIA	Iran-05 ^{FAR-09}
4	A/IRN/1/2005 (EF208769)	IRN05-01	639	593	0	92.80	7.20	ASIA	Iran-05
5	A/BAR/6/2008	BAR08-06	639	590	0	92.33	7.67	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/1/2008	TUR08-01	639	588	0	92.02	7.98	ASIA	Iran-05 ^{ARD-07}
7	A/TUR/33/2008	TUR08-33	639	587	0	91.86	8.14	ASIA	Iran-05 ^{EZM-07}
8	A/IRN/125/2010	IRN10125	639	586	0	91.71	8.29	ASIA	Iran-05 ^{SIS-10}
9	A/IRN/9/2010	IRN10-09	639	578	0	90.45	9.55	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	574	0	89.83	10.17	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/11/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-29 1 (14120036)	
Location: Marvdasht, Fars, Iran	Topotype: ASIA
Date collected: 26/01/2012	Genotype/strain: Iran-05 ^{HER-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-11.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/12/2012	IRN12-12	639	639	0	100.00	0.00	ASIA	Iran-05 ^{HER-10}
2	A/IRN/5/2012	IRN12-05	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
3	A/IRN/63/2011	IRN11-63	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
4	A/IRN/8/2012	IRN12-08	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
5	A/AFG/69/2011	AFG11-69	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
6	A/AFG/71/2011	AFG11-71	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
7	A/AFG/74/2011	AFG11-74	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
8	A/AFG/75/2011	AFG11-75	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
9	A/BAR/18/2011	BAR11-18	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
10	A/AFG/20/2011	AFG11-20	639	625	0	97.81	2.19	ASIA	Iran-05 ^{HER-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/10/2010	AFG10-10	639	622	0	97.34	2.66	ASIA	Iran-05 ^{HER-10}
2	A/AFG/6/2007	AFG07-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	595	0	93.11	6.89	ASIA	Iran-05 ^{FAR-09}
4	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
5	A/BAR/6/2008	BAR08-06	639	591	0	92.49	7.51	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/1/2008	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
8	A/TUR/33/2008	TUR08-33	639	586	0	91.71	8.29	ASIA	Iran-05 ^{EZM-07}
9	A/IRN/9/2010	IRN10-09	639	577	0	90.30	9.70	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	575	0	89.98	10.02	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 03/04/2012
WRLFMD Ref No: IRN/12/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00012	Checked by: V. Mioulet
Sender Ref: IR-90-29 2 (14120036)	
Location: Marvdasht, Fars, Iran	Topotype: ASIA
Date collected: 26/01/2012	Genotype/strain: Iran-05 ^{HER-10}
Date received by WRLFMD: 24/02/2012	Sequence filename: IRN12-12.SEQ
Date received for sequencing: 29/03/2012	Date sequence last updated: 03/04/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1394
A-1C612F/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	A/IRN/11/2012	IRN12-11	639	639	0	100.00	0.00	ASIA	Iran-05 ^{HER-10}
2	A/IRN/5/2012	IRN12-05	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
3	A/IRN/63/2011	IRN11-63	639	637	0	99.69	0.31	ASIA	Iran-05 ^{HER-10}
4	A/IRN/8/2012	IRN12-08	639	634	0	99.22	0.78	ASIA	Iran-05 ^{HER-10}
5	A/AFG/69/2011	AFG11-69	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
6	A/AFG/71/2011	AFG11-71	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
7	A/AFG/74/2011	AFG11-74	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
8	A/AFG/75/2011	AFG11-75	639	629	0	98.44	1.56	ASIA	Iran-05 ^{HER-10}
9	A/BAR/18/2011	BAR11-18	639	626	0	97.97	2.03	ASIA	Iran-05 ^{HER-10}
10	A/AFG/20/2011	AFG11-20	639	625	0	97.81	2.19	ASIA	Iran-05 ^{HER-10}
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/10/2010	AFG10-10	639	622	0	97.34	2.66	ASIA	Iran-05 ^{HER-10}
2	A/AFG/6/2007	AFG07-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	595	0	93.11	6.89	ASIA	Iran-05 ^{FAR-09}
4	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
5	A/BAR/6/2008	BAR08-06	639	591	0	92.49	7.51	ASIA	Iran-05 ^{BAR-08}
6	A/TUR/1/2008	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
8	A/TUR/33/2008	TUR08-33	639	586	0	91.71	8.29	ASIA	Iran-05 ^{EZM-07}
9	A/IRN/9/2010	IRN10-09	639	577	0	90.30	9.70	ASIA	Iran-05 ^{ESF-10}
10	A/IRN/9/2011	IRN11-09	639	575	0	89.98	10.02	ASIA	Iran-05 ^{QAZ-11}

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV A 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 : 639

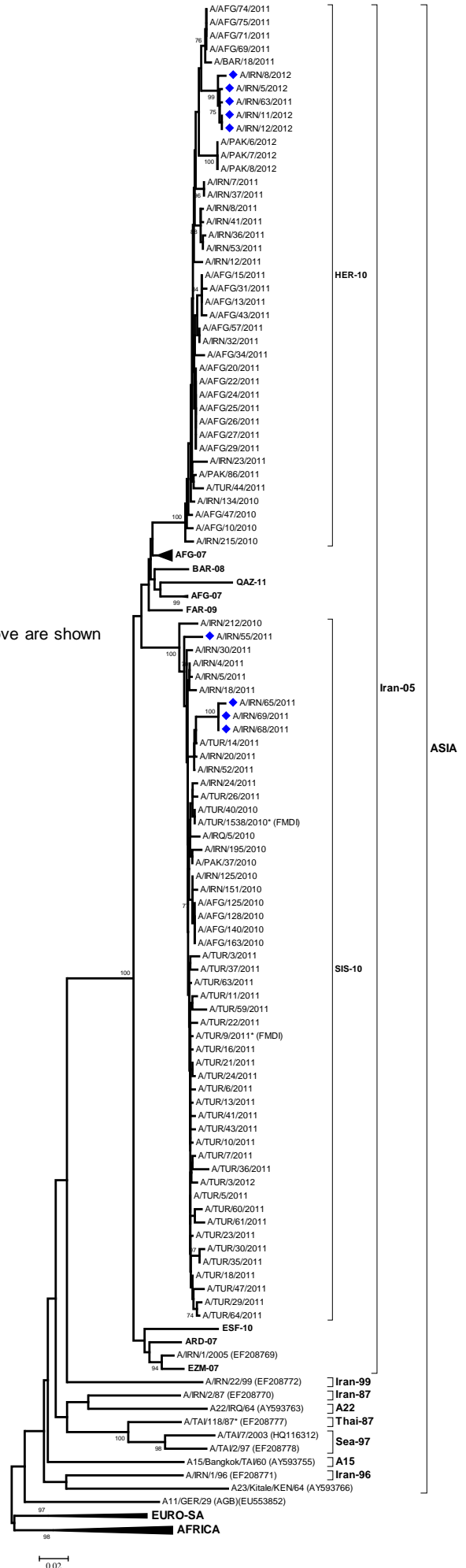
No Of Bootstrap Reps = 1000 Only bootstrap values of 70% and above are shown

* , not a WRLFMD Ref. No.

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

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