

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

Genotyping Report

Report Date for this Batch: 20 April 2014

FMDV type A

Country: Afghanistan

Period: 2013

No. of samples: 9

BATCH: WRLFMD/2014/00004



The contents of this report are copyright and should not be reproduced without permission

© The Pirbright Institute

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A WRLFMD Ref No: AFG/4/2013 Batch No: WRLFMD/2014/00004 Sender Ref: 5914 Location: Khaer Abad, Enjeil, Hirat province, Afghanistan Date collected: 27/09/2013 Date received by WRLFMD: 10/02/2014 Date received for sequencing: 08/04/2014 Species: Cattle Material used: BTy1 15/03/2014 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 10/04/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Iran-05 ^{FAR-11} Sequence filename: AFG13-04.SEQ Date sequence last updated: 10/04/2014 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1876 Min. no. of nt for comparison: 600 Total turn-around time: 59 days Sequencing time: 2 days
Comments: FMDV type O was also detected in this sample.	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/13/2013	AFG13-13	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/15/2013	AFG13-15	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
3	A/AFG/5/2013	AFG13-05	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
4	A/AFG/8/2013	AFG13-08	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
5	A/AFG/9/2013	AFG13-09	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/1/2013	PAK13-01	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/11/2013	PAK13-11	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/13/2013	PAK13-13	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/14/2013	PAK13-14	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/48/2012	PAK12-48	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	621	0	97.18	2.82	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	599	0	93.74	6.26	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/IRN/15/2012	IRN12-15	639	596	0	93.27	6.73	ASIA	Iran-05 ^{SIS-12}
5	A/IRN/78/2009	IRN09-78	639	593	0	92.80	7.20	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	591	0	92.49	7.51	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	591	0	92.49	7.51	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	588	0	92.02	7.98	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	584	0	91.39	8.61	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	639	582	0	91.08	8.92	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© *The Pirbright Institute* (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A	Report date: 10/04/2014
WRLFMD Ref No: AFG/5/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00004	Checked by: K. Bachanek-Bankowska
Sender Ref: 5920	
Location: Gozarah, Hirat province, Afghanistan	Topotype: ASIA
Date collected: 02/10/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 10/02/2014	Sequence filename: AFG13-05.SEQ
Date received for sequencing: 08/04/2014	Date sequence last updated: 10/04/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 14/03/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1876
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 59 days
	Sequencing time: 2 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/AFG/13/2013	AFG13-13	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/15/2013	AFG13-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/AFG/8/2013	AFG13-08	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
4	A/AFG/9/2013	AFG13-09	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
5	A/AFG/4/2013	AFG13-04	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/1/2013	PAK13-01	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/11/2013	PAK13-11	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/13/2013	PAK13-13	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/14/2013	PAK13-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/48/2012	PAK12-48	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	622	0	97.34	2.66	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/10/2010	AFG10-10	639	599	0	93.74	6.26	ASIA	Iran-05 ^{HER-10}
4	A/IRN/15/2012	IRN12-15	639	599	0	93.74	6.26	ASIA	Iran-05 ^{SIS-12}
5	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	589	0	92.18	7.82	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	639	585	0	91.55	8.45	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© *The Pirbright Institute* (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A WRLFMD Ref No: AFG/8/2013 Batch No: WRLFMD/2014/00004 Sender Ref: 5918 Location: Gorat, Gozarah, Hirat province, Afghanistan Date collected: 05/10/2013 Date received by WRLFMD: 10/02/2014 Date received for sequencing: 08/04/2014 Species: Cattle Material used: BTy1 19/03/2014 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 10/04/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Iran-05 ^{FAR-11} Sequence filename: AFG13-08.SEQ Date sequence last updated: 10/04/2014 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1876 Min. no. of nt for comparison: 600 Total turn-around time: 59 days Sequencing time: 2 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/AFG/13/2013	AFG13-13	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/15/2013	AFG13-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/AFG/5/2013	AFG13-05	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
4	A/AFG/9/2013	AFG13-09	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
5	A/AFG/4/2013	AFG13-04	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/1/2013	PAK13-01	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/11/2013	PAK13-11	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/13/2013	PAK13-13	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/14/2013	PAK13-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/48/2012	PAK12-48	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	622	0	97.34	2.66	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/10/2010	AFG10-10	639	599	0	93.74	6.26	ASIA	Iran-05 ^{HER-10}
4	A/IRN/15/2012	IRN12-15	639	599	0	93.74	6.26	ASIA	Iran-05 ^{SIS-12}
5	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	589	0	92.18	7.82	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	639	585	0	91.55	8.45	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A WRLFMD Ref No: AFG/9/2013 Batch No: WRLFMD/2014/00004 Sender Ref: 5919 Location: Pechakey, Gozarah, Hirat province, Afghanistan Date collected: 08/10/2013 Date received by WRLFMD: 10/02/2014 Date received for sequencing: 08/04/2014 Species: Cattle Material used: BTy1 20/03/2014 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 10/04/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Iran-05 ^{FAR-11} Sequence filename: AFG13-09.SEQ Date sequence last updated: 10/04/2014 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1876 Min. no. of nt for comparison: 600 Total turn-around time: 59 days Sequencing time: 2 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/AFG/13/2013	AFG13-13	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/15/2013	AFG13-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/AFG/5/2013	AFG13-05	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
4	A/AFG/8/2013	AFG13-08	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
5	A/AFG/4/2013	AFG13-04	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/1/2013	PAK13-01	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/11/2013	PAK13-11	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/13/2013	PAK13-13	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/14/2013	PAK13-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/48/2012	PAK12-48	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	622	0	97.34	2.66	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/10/2010	AFG10-10	639	599	0	93.74	6.26	ASIA	Iran-05 ^{HER-10}
4	A/IRN/15/2012	IRN12-15	639	599	0	93.74	6.26	ASIA	Iran-05 ^{SIS-12}
5	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	589	0	92.18	7.82	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	639	585	0	91.55	8.45	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© *The Pirbright Institute* (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A	Report date: 10/04/2014
WRLFMD Ref No: AFG/12/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00004	Checked by: K. Bachanek-Bankowska
Sender Ref: 5931	
Location: Enjeil, Hirat province, Afghanistan	Topotype: ASIA
Date collected: 09/10/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 10/02/2014	Sequence filename: AFG13-12.SEQ
Date received for sequencing: 08/04/2014	Date sequence last updated: 10/04/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 20/03/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1876
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 59 days
	Sequencing time: 2 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/AFG/14/2013	AFG13-14	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/19/2013	AFG13-19	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/PAK/1/2013	PAK13-01	639	629	0	98.44	1.56	ASIA	Iran-05 ^{FAR-11}
4	A/PAK/48/2012	PAK12-48	639	629	0	98.44	1.56	ASIA	Iran-05 ^{FAR-11}
5	A/PAK/19/2013	PAK13-19	639	628	0	98.28	1.72	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/11/2013	PAK13-11	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/13/2013	PAK13-13	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/14/2013	PAK13-14	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/6/2013	PAK13-06	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/17/2013	PAK13-17	639	626	0	97.97	2.03	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	619	0	96.87	3.13	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	597	0	93.43	6.57	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	593	0	92.80	7.20	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/IRN/15/2012	IRN12-15	639	590	0	92.33	7.67	ASIA	Iran-05 ^{SIS-12}
6	A/TUR/1/2008 (FJ755133)	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	587	0	91.86	8.14	ASIA	Iran-05
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	583	0	91.24	8.76	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	582	0	91.08	8.92	ASIA	Iran-05 ^{SIS-10}
10	A/IRN/9/2010	IRN10-09	639	580	0	90.77	9.23	ASIA	Iran-05 ^{ESF-10}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A WRLFMD Ref No: AFG/13/2013 Batch No: WRLFMD/2014/00004 Sender Ref: 5917 Location: Shamaka, Gozarah, Hirat province, Afghanistan Date collected: 10/10/2013 Date received by WRLFMD: 10/02/2014 Date received for sequencing: 08/04/2014 Species: Cattle Material used: BTy1 20/03/2014 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 10/04/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Iran-05 ^{FAR-11} Sequence filename: AFG13-13.SEQ Date sequence last updated: 10/04/2014 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1876 Min. no. of nt for comparison: 600 Total turn-around time: 59 days Sequencing time: 2 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/AFG/15/2013	AFG13-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/5/2013	AFG13-05	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/AFG/8/2013	AFG13-08	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
4	A/AFG/9/2013	AFG13-09	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
5	A/AFG/4/2013	AFG13-04	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/1/2013	PAK13-01	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/11/2013	PAK13-11	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/13/2013	PAK13-13	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/14/2013	PAK13-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/48/2012	PAK12-48	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	622	0	97.34	2.66	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/10/2010	AFG10-10	639	599	0	93.74	6.26	ASIA	Iran-05 ^{HER-10}
4	A/IRN/15/2012	IRN12-15	639	599	0	93.74	6.26	ASIA	Iran-05 ^{SIS-12}
5	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	589	0	92.18	7.82	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	639	585	0	91.55	8.45	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A	Report date: 10/04/2014
WRLFMD Ref No: AFG/14/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00004	Checked by: K. Bachanek-Bankowska
Sender Ref: 5933	
Location: Enjeil, Hirat province, Afghanistan	Topotype: ASIA
Date collected: 13/10/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 10/02/2014	Sequence filename: AFG13-14.SEQ
Date received for sequencing: 08/04/2014	Date sequence last updated: 10/04/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 20/03/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Total no. of comparisons: 1876
	Min. no. of nt for comparison: 600
	Total turn-around time: 59 days
	Sequencing time: 2 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/AFG/12/2013	AFG13-12	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/19/2013	AFG13-19	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/PAK/1/2013	PAK13-01	639	629	0	98.44	1.56	ASIA	Iran-05 ^{FAR-11}
4	A/PAK/48/2012	PAK12-48	639	629	0	98.44	1.56	ASIA	Iran-05 ^{FAR-11}
5	A/PAK/19/2013	PAK13-19	639	628	0	98.28	1.72	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/11/2013	PAK13-11	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/13/2013	PAK13-13	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/14/2013	PAK13-14	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/6/2013	PAK13-06	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/17/2013	PAK13-17	639	626	0	97.97	2.03	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	619	0	96.87	3.13	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	597	0	93.43	6.57	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	593	0	92.80	7.20	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/IRN/15/2012	IRN12-15	639	590	0	92.33	7.67	ASIA	Iran-05 ^{SIS-12}
6	A/TUR/1/2008 (FJ755133)	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	587	0	91.86	8.14	ASIA	Iran-05
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	583	0	91.24	8.76	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	582	0	91.08	8.92	ASIA	Iran-05 ^{SIS-10}
10	A/IRN/9/2010	IRN10-09	639	580	0	90.77	9.23	ASIA	Iran-05 ^{ESF-10}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A WRLFMD Ref No: AFG/15/2013 Batch No: WRLFMD/2014/00004 Sender Ref: 5916 Location: Abdy, Gozarah, Hirat province, Afghanistan Date collected: 16/10/2013 Date received by WRLFMD: 10/02/2014 Date received for sequencing: 08/04/2014 Species: Cattle Material used: BTy1 22/03/2014 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 10/04/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Iran-05 ^{FAR-11} Sequence filename: AFG13-15.SEQ Date sequence last updated: 10/04/2014 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1876 Min. no. of nt for comparison: 600 Total turn-around time: 59 days Sequencing time: 2 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/AFG/13/2013	AFG13-13	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/5/2013	AFG13-05	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/AFG/8/2013	AFG13-08	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
4	A/AFG/9/2013	AFG13-09	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
5	A/AFG/4/2013	AFG13-04	639	634	0	99.22	0.78	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/1/2013	PAK13-01	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/11/2013	PAK13-11	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/13/2013	PAK13-13	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/14/2013	PAK13-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/48/2012	PAK12-48	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	622	0	97.34	2.66	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/10/2010	AFG10-10	639	599	0	93.74	6.26	ASIA	Iran-05 ^{HER-10}
4	A/IRN/15/2012	IRN12-15	639	599	0	93.74	6.26	ASIA	Iran-05 ^{SIS-12}
5	A/IRN/78/2009	IRN09-78	639	596	0	93.27	6.73	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	594	0	92.96	7.04	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	589	0	92.18	7.82	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	587	0	91.86	8.14	ASIA	Iran-05 ^{SIS-10}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	639	585	0	91.55	8.45	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A	Report date: 10/04/2014
WRLFMD Ref No: AFG/19/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00004	Checked by: K. Bachanek-Bankowska
Sender Ref: 5932	
Location: Enjeil, Hirat province, Afghanistan	Topotype: ASIA
Date collected: 27/10/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 10/02/2014	Sequence filename: AFG13-19.SEQ
Date received for sequencing: 08/04/2014	Date sequence last updated: 10/04/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 27/03/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1876
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 59 days
	Sequencing time: 2 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/AFG/12/2013	AFG13-12	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/14/2013	AFG13-14	639	639	0	100.00	0.00	ASIA	Iran-05 ^{FAR-11}
3	A/PAK/1/2013	PAK13-01	639	629	0	98.44	1.56	ASIA	Iran-05 ^{FAR-11}
4	A/PAK/48/2012	PAK12-48	639	629	0	98.44	1.56	ASIA	Iran-05 ^{FAR-11}
5	A/PAK/19/2013	PAK13-19	639	628	0	98.28	1.72	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/11/2013	PAK13-11	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/13/2013	PAK13-13	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/14/2013	PAK13-14	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/6/2013	PAK13-06	639	627	0	98.12	1.88	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/17/2013	PAK13-17	639	626	0	97.97	2.03	ASIA	Iran-05 ^{FAR-11}
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/1/2011	IRN11-01	639	619	0	96.87	3.13	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	597	0	93.43	6.57	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/78/2009	IRN09-78	639	593	0	92.80	7.20	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/IRN/15/2012	IRN12-15	639	590	0	92.33	7.67	ASIA	Iran-05 ^{SIS-12}
6	A/TUR/1/2008 (FJ755133)	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
7	A/IRN/1/2005 (EF208769)	IRN05-01	639	587	0	91.86	8.14	ASIA	Iran-05
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	583	0	91.24	8.76	ASIA	Iran-05 ^{BAR-08}
9	A/IRN/125/2010	IRN10125	639	582	0	91.08	8.92	ASIA	Iran-05 ^{SIS-10}
10	A/IRN/9/2010	IRN10-09	639	580	0	90.77	9.23	ASIA	Iran-05 ^{ESF-10}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.2

© The Pirbright Institute (not to be reproduced without permission)

Report on FMDV A in Afghanistan in 2013

Batch: WRLFMD/2014/00004

◆ indicates viruses in this batch

Software: MEGA 6.06

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

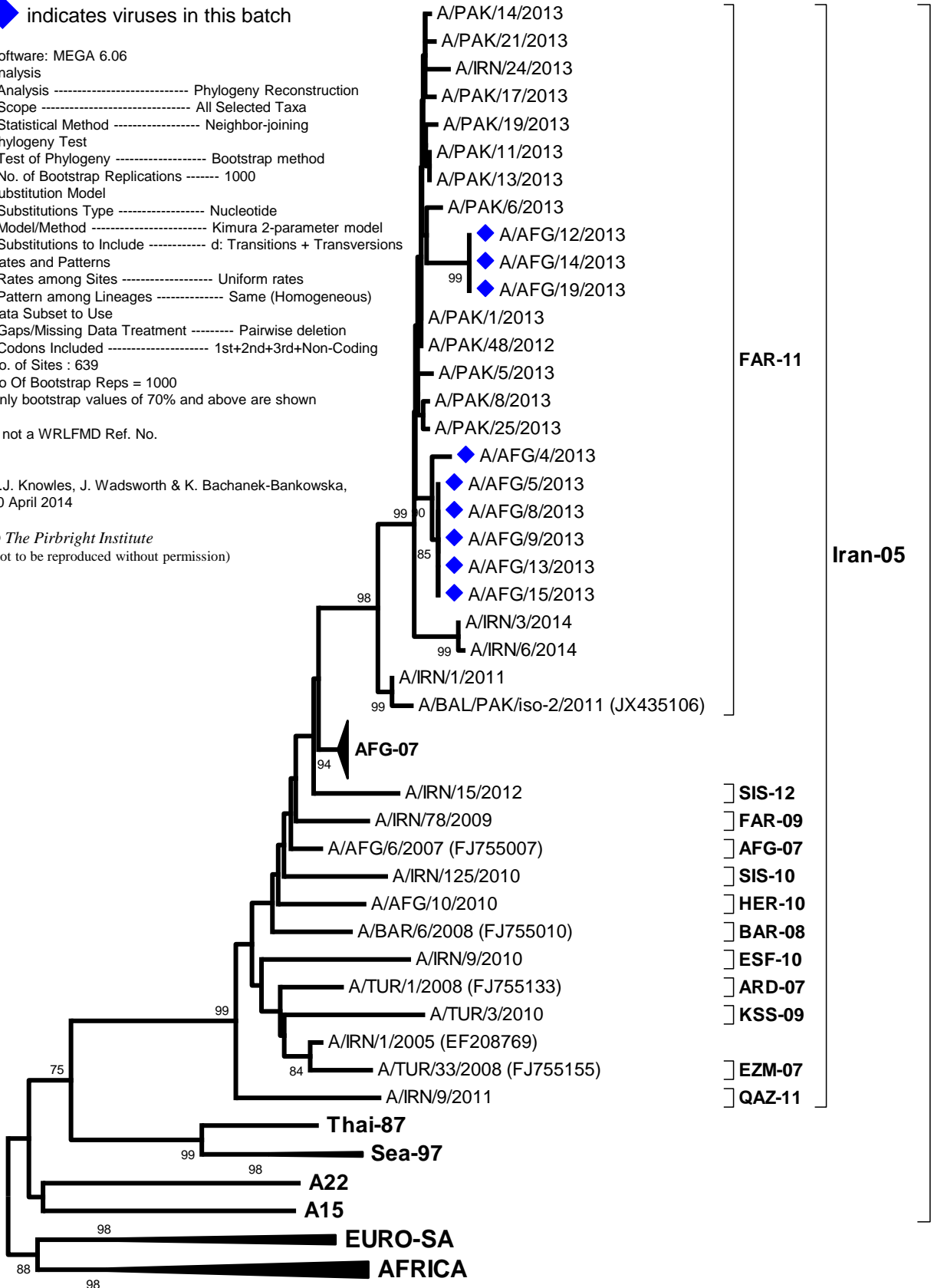
Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles, J. Wadsworth & K. Bachanek-Bankowska,
20 April 2014

© The Pirbright Institute

(not to be reproduced without permission)



0.02