

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

Genotyping Report

Report Date for this Batch: 28 July 2015

FMDV type A

Country: Afghanistan

Period: 2013

No. of samples: 3

BATCH: WRLFMD/2015/00003

Report on the sequences of AFG/28/2013, AFG/30/2013 & AFG/32/2013 which was originally reported as FMDV-GD. AFG/29/2013 was also examined but was RT-PCR negative for the VP1 region.



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: A	Report date: 07/07/2015
WRLFMD Ref No: AFG/28/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2015/00003	Checked by: K. Bachanek-Bankowska
Sender Ref: 6146	
Location: Paryan, Panjsher, Afghanistan	Topotype: ASIA
Date collected: 30/12/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 31/03/2015	Sequence filename: AFG13-28.SEQ
Date received for sequencing: 29/06/2015	Date sequence last updated: 06/07/2015
Species: Cattle	No. of Nt determined: 639
Material used: RNA	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 2028
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 98 days
	Sequencing time: 8 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/32/2013	AFG13-32	639	637	0	99.69	0.31	ASIA	Iran-05 ^{FAR-11}
2	A/AFG/30/2013	AFG13-30	639	635	0	99.37	0.63	ASIA	Iran-05 ^{FAR-11}
3	A/PAK/1/2013	PAK13-01	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
4	A/PAK/11/2013	PAK13-11	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
5	A/PAK/13/2013	PAK13-13	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/14/2013	PAK13-14	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/48/2012	PAK12-48	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/17/2013	PAK13-17	639	630	0	98.59	1.41	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/21/2013	PAK13-21	639	630	0	98.59	1.41	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/22/2014	PAK14-22	639	630	0	98.59	1.41	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	623	0	97.50	2.50	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/15/2012	IRN12-15	639	596	0	93.27	6.73	ASIA	Iran-05 ^{SIS-12}
4	A/AFG/10/2010	AFG10-10	639	594	0	92.96	7.04	ASIA	Iran-05 ^{HER-10}
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	588	0	92.02	7.98	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	587	0	91.86	8.14	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	584	0	91.39	8.61	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	581	0	90.92	9.08	ASIA	Iran-05 ^{ESF-10}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 07/07/2015
WRLFMD Ref No: AFG/30/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2015/00003	Checked by: K. Bachanek-Bankowska
Sender Ref: 6141	
Location: Onaba, Panjsher, Afghanistan	Topotype: ASIA
Date collected: 30/12/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 31/03/2015	Sequence filename: AFG13-30.SEQ
Date received for sequencing: 29/06/2015	Date sequence last updated: 06/07/2015
Species: Cattle	No. of Nt determined: 639
Material used: RNA	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C612F/EUR-2B52R	Total no. of comparisons: 2028
	Min. no. of nt for comparison: 600
	Total turn-around time: 98 days
	Sequencing time: 8 days
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2	A/AFG/28/2013	AFG13-28	639	635	0	99.37	0.63	ASIA	Iran-05 ^{FAR-11}
3	A/PAK/1/2013	PAK13-01	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
4	A/PAK/11/2013	PAK13-11	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
5	A/PAK/13/2013	PAK13-13	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/14/2013	PAK13-14	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/48/2012	PAK12-48	639	631	0	98.75	1.25	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/17/2013	PAK13-17	639	630	0	98.59	1.41	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/21/2013	PAK13-21	639	630	0	98.59	1.41	ASIA	Iran-05 ^{FAR-11}
10	A/PAK/22/2014	PAK14-22	639	630	0	98.59	1.41	ASIA	Iran-05 ^{FAR-11}
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3	A/IRN/15/2012	IRN12-15	639	596	0	93.27	6.73	ASIA	Iran-05 ^{SIS-12}
4	A/IRN/78/2009	IRN09-78	639	595	0	93.11	6.89	ASIA	Iran-05 ^{FAR-09}
5	A/AFG/10/2010	AFG10-10	639	594	0	92.96	7.04	ASIA	Iran-05 ^{HER-10}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	588	0	92.02	7.98	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	587	0	91.86	8.14	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	584	0	91.39	8.61	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/9/2011	IRN11-09	639	581	0	90.92	9.08	ASIA	Iran-05 ^{QAZ-11}

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Serotype: A	Report date: 07/07/2015
WRLFMD Ref No: AFG/32/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2015/00003	Checked by: K. Bachanek-Bankowska
Sender Ref: 6135	
Location: Khenje, Panjsher, Afghanistan	Topotype: ASIA
Date collected: 30/12/2013	Genotype/strain: Iran-05 ^{FAR-11}
Date received by WRLFMD: 31/03/2015	Sequence filename: AFG13-32.SEQ
Date received for sequencing: 29/06/2015	Date sequence last updated: 06/07/2015
Species: Cattle	No. of Nt determined: 639
Material used: RNA	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 2028
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 98 days
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3	A/PAK/1/2013	PAK13-01	639	633	0	99.06	0.94	ASIA	Iran-05 ^{FAR-11}
4	A/PAK/11/2013	PAK13-11	639	633	0	99.06	0.94	ASIA	Iran-05 ^{FAR-11}
5	A/PAK/13/2013	PAK13-13	639	633	0	99.06	0.94	ASIA	Iran-05 ^{FAR-11}
6	A/PAK/14/2013	PAK13-14	639	633	0	99.06	0.94	ASIA	Iran-05 ^{FAR-11}
7	A/PAK/48/2012	PAK12-48	639	633	0	99.06	0.94	ASIA	Iran-05 ^{FAR-11}
8	A/PAK/17/2013	PAK13-17	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
9	A/PAK/21/2013	PAK13-21	639	632	0	98.90	1.10	ASIA	Iran-05 ^{FAR-11}
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2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	599	0	93.74	6.26	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/15/2012	IRN12-15	639	598	0	93.58	6.42	ASIA	Iran-05 ^{SIS-12}
4	A/AFG/10/2010	AFG10-10	639	596	0	93.27	6.73	ASIA	Iran-05 ^{HER-10}
5	A/IRN/78/2009	IRN09-78	639	595	0	93.11	6.89	ASIA	Iran-05 ^{FAR-09}
6	A/IRN/1/2005 (EF208769)	IRN05-01	639	590	0	92.33	7.67	ASIA	Iran-05
7	A/TUR/1/2008 (FJ755133)	TUR08-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{ARD-07}
8	A/BAR/6/2008 (FJ755010)	BAR08-06	639	586	0	91.71	8.29	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/IRN/9/2010	IRN10-09	639	582	0	91.08	8.92	ASIA	Iran-05 ^{ESF-10}

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Report on FMDV A in Afghanistan in 2013

Batch: WRLFMD/2015/00003

◆ 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

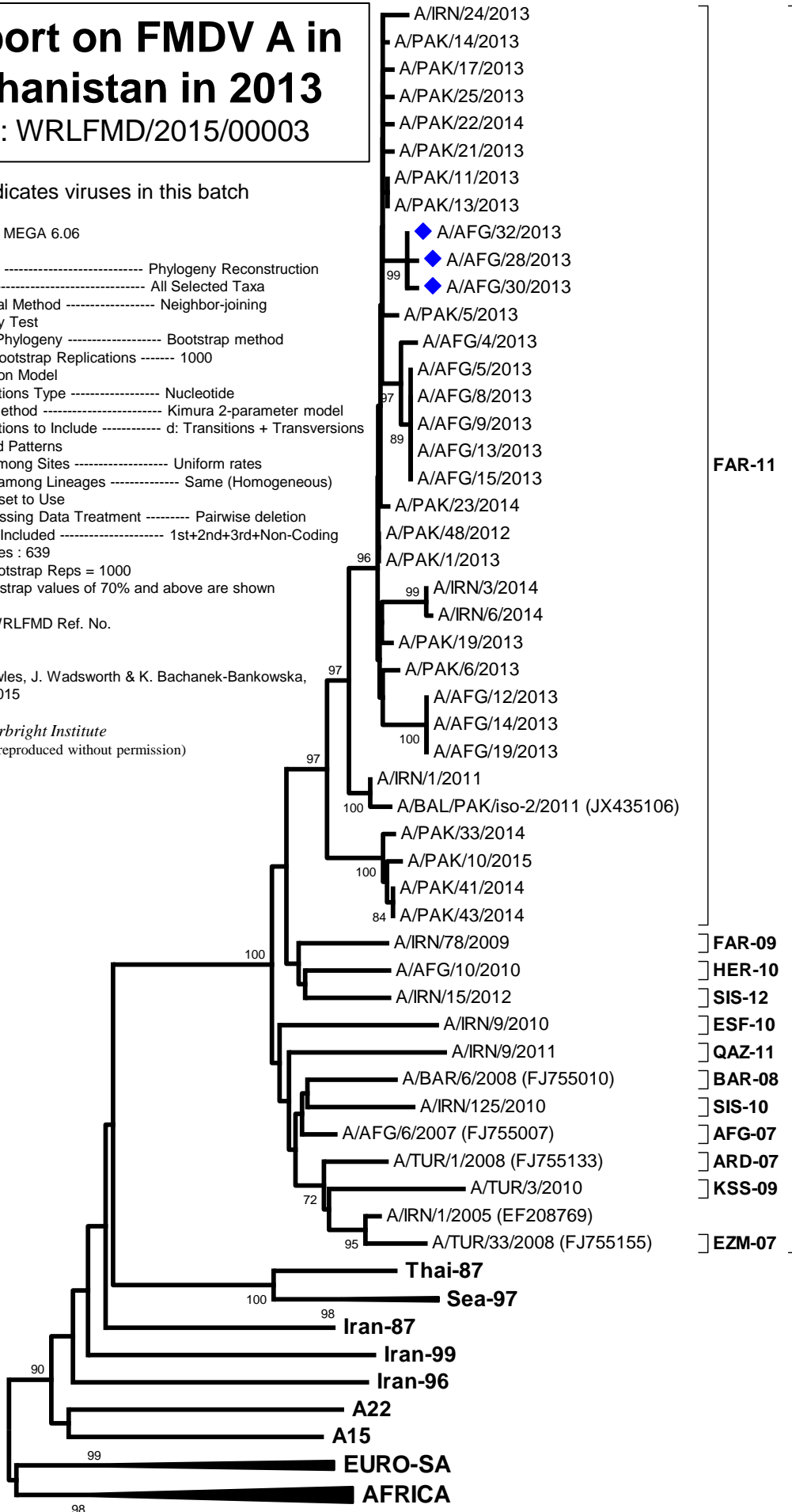
Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles, J. Wadsworth & K. Bachanek-Bankowska,
14 July 2015

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