

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

Genotyping Report

FMDV serotype: A
Country: Afghanistan
Year: 2017
Batch: WRLFMD/2017/00018
No. of sequences: 9
Report date: 25th August 2017
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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www: <http://www.wrlfmd.org/>

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Virus sample name:	AFG/2/2017
Sender reference:	8155
Location of origin:	Paryan, Panjsher
Country of origin:	Afghanistan
Date of collection:	10/01/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	03/08/2017
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34387, genome 34388, sequence viba_34389, sequencing info 34390	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34409	AFG/11/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34397	AFG/4/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34413	AFG/13/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34417	AFG/14/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_25220	PAK/20/2015	cattle	97.0	0	A	ASIA	Iran-05	FAR-11
viba_25216	PAK/17/2015	water buffalo	97.0	0	A	ASIA	Iran-05	FAR-11
viba_22431	PAK/33/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25212	PAK/16/2015	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25208	PAK/15/2015	water buffalo	96.8	0	A	ASIA	Iran-05	FAR-11
viba_22439	PAK/41/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_594	IRN/1/2011	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_414	AFG/6/2007	bovine	93.2	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	92.6	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	92.4	0	A	ASIA	Iran-05	
viba_319	BAR/6/2008	bovine	92.3	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_331	AFG/10/2010		92.1	0	A	ASIA	Iran-05	HER-10
viba_791	IRN/125/2010	bovine	91.9	0	A	ASIA	Iran-05	SIS-10
viba_403	TUR/1/2008	cattle	91.9	0	A	ASIA	Iran-05	ARD-07
viba_308	IRN/9/2011	bovine	91.5	0	A	ASIA	Iran-05	QAZ-11

Virus sample name:	AFG/3/2017
Sender reference:	8158
Location of origin:	Bazarak, Panjsher
Country of origin:	Afghanistan
Date of collection:	13/01/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	SIS-13
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy2
Harvest date of material:	04/08/2017
Primers:	A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34391, genome 34392, sequence viba_34393, sequencing info 34394	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34401	AFG/6/2017	cattle	99.8	0	A	ASIA	Iran-05	SIS-13
viba_34421	AFG/25/2017	cattle	99.7	0	A	ASIA	Iran-05	SIS-13
viba_34405	AFG/10/2017	cattle	99.4	0	A	ASIA	Iran-05	SIS-13
viba_22410	PAK/10/2014	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_22454	PAK/14/2014	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_20947	IRN/28/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_20943	IRN/27/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_25947	PAK/53/2015	cattle	95.7	0	A	ASIA	Iran-05	SIS-13
viba_22406	PAK/8/2014	water buffalo	95.6	0	A	ASIA	Iran-05	SIS-13
viba_22443	PAK/42/2014	water buffalo	95.3	0	A	ASIA	Iran-05	SIS-13

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20943	IRN/27/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_414	AFG/6/2007	bovine	91.5	0	A	ASIA	Iran-05	AFG-07
viba_331	AFG/10/2010		91.3	0	A	ASIA	Iran-05	HER-10
viba_319	BAR/6/2008	bovine	90.8	0	A	ASIA	Iran-05	BAR-08
viba_594	IRN/1/2011	bovine	90.8	0	A	ASIA	Iran-05	FAR-11
viba_403	TUR/1/2008	cattle	90.0	0	A	ASIA	Iran-05	ARD-07
viba_791	IRN/125/2010	bovine	89.9	0	A	ASIA	Iran-05	SIS-10
viba_557	IRN/15/2012	bovine	89.9	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	89.9	0	A	ASIA	Iran-05	

Virus sample name:	AFG/4/2017
Sender reference:	8147
Location of origin:	Wonabah, Panjsher
Country of origin:	Afghanistan
Date of collection:	17/01/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	04/08/2017
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34395, genome 34396, sequence viba_34397, sequencing info 34398	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34389	AFG/2/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34409	AFG/11/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34413	AFG/13/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34417	AFG/14/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_25220	PAK/20/2015	cattle	97.0	0	A	ASIA	Iran-05	FAR-11
viba_25216	PAK/17/2015	water buffalo	97.0	0	A	ASIA	Iran-05	FAR-11
viba_22431	PAK/33/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25212	PAK/16/2015	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25208	PAK/15/2015	water buffalo	96.8	0	A	ASIA	Iran-05	FAR-11
viba_22439	PAK/41/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_594	IRN/1/2011	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_414	AFG/6/2007	bovine	93.2	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	92.6	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	92.4	0	A	ASIA	Iran-05	
viba_319	BAR/6/2008	bovine	92.3	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_331	AFG/10/2010		92.1	0	A	ASIA	Iran-05	HER-10
viba_791	IRN/125/2010	bovine	91.9	0	A	ASIA	Iran-05	SIS-10
viba_403	TUR/1/2008	cattle	91.9	0	A	ASIA	Iran-05	ARD-07
viba_308	IRN/9/2011	bovine	91.5	0	A	ASIA	Iran-05	QAZ-11

Virus sample name:	AFG/6/2017
Sender reference:	8517
Location of origin:	M.Agha, Logar
Country of origin:	Afghanistan
Date of collection:	11/03/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	SIS-13
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	03/08/2017
Primers:	A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34399, genome 34400, sequence viba_34401, sequencing info 34402	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34421	AFG/25/2017	cattle	99.8	0	A	ASIA	Iran-05	SIS-13
viba_34393	AFG/3/2017	cattle	99.8	0	A	ASIA	Iran-05	SIS-13
viba_34405	AFG/10/2017	cattle	99.5	0	A	ASIA	Iran-05	SIS-13
viba_22410	PAK/10/2014	cattle	96.1	0	A	ASIA	Iran-05	SIS-13
viba_22454	PAK/14/2014	cattle	96.1	0	A	ASIA	Iran-05	SIS-13
viba_20947	IRN/28/2013	cattle	96.1	0	A	ASIA	Iran-05	SIS-13
viba_20943	IRN/27/2013	cattle	96.1	0	A	ASIA	Iran-05	SIS-13
viba_25947	PAK/53/2015	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_22406	PAK/8/2014	water buffalo	95.7	0	A	ASIA	Iran-05	SIS-13
viba_22443	PAK/42/2014	water buffalo	95.4	0	A	ASIA	Iran-05	SIS-13

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20943	IRN/27/2013	cattle	96.1	0	A	ASIA	Iran-05	SIS-13
viba_636	IRN/78/2009		92.4	0	A	ASIA	Iran-05	FAR-09
viba_414	AFG/6/2007	bovine	91.6	0	A	ASIA	Iran-05	AFG-07
viba_331	AFG/10/2010		91.5	0	A	ASIA	Iran-05	HER-10
viba_319	BAR/6/2008	bovine	91.0	0	A	ASIA	Iran-05	BAR-08
viba_594	IRN/1/2011	bovine	91.0	0	A	ASIA	Iran-05	FAR-11
viba_403	TUR/1/2008	cattle	90.2	0	A	ASIA	Iran-05	ARD-07
viba_791	IRN/125/2010	bovine	90.0	0	A	ASIA	Iran-05	SIS-10
viba_557	IRN/15/2012	bovine	90.0	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	90.0	0	A	ASIA	Iran-05	

Virus sample name:	AFG/10/2017
Sender reference:	8734
Location of origin:	Koshta, Nangarhar
Country of origin:	Afghanistan
Date of collection:	21/03/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	SIS-13
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	04/08/2017
Primers:	A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34403, genome 34404, sequence viba_34405, sequencing info 34406	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34401	AFG/6/2017	cattle	99.5	0	A	ASIA	Iran-05	SIS-13
viba_34421	AFG/25/2017	cattle	99.4	0	A	ASIA	Iran-05	SIS-13
viba_34393	AFG/3/2017	cattle	99.4	0	A	ASIA	Iran-05	SIS-13
viba_22410	PAK/10/2014	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_22454	PAK/14/2014	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_20947	IRN/28/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_20943	IRN/27/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_25947	PAK/53/2015	cattle	95.7	0	A	ASIA	Iran-05	SIS-13
viba_22406	PAK/8/2014	water buffalo	95.6	0	A	ASIA	Iran-05	SIS-13
viba_22443	PAK/42/2014	water buffalo	95.3	0	A	ASIA	Iran-05	SIS-13

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20943	IRN/27/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_414	AFG/6/2007	bovine	91.8	0	A	ASIA	Iran-05	AFG-07
viba_331	AFG/10/2010		91.6	0	A	ASIA	Iran-05	HER-10
viba_319	BAR/6/2008	bovine	91.2	0	A	ASIA	Iran-05	BAR-08
viba_594	IRN/1/2011	bovine	90.8	0	A	ASIA	Iran-05	FAR-11
viba_403	TUR/1/2008	cattle	90.7	0	A	ASIA	Iran-05	ARD-07
viba_791	IRN/125/2010	bovine	90.2	0	A	ASIA	Iran-05	SIS-10
viba_557	IRN/15/2012	bovine	90.2	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	90.2	0	A	ASIA	Iran-05	

Virus sample name:	AFG/11/2017
Sender reference:	8816
Location of origin:	Wonabah, Panjsher
Country of origin:	Afghanistan
Date of collection:	21/03/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	04/08/2017
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34407, genome 34408, sequence viba_34409, sequencing info 34410	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34389	AFG/2/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34397	AFG/4/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34413	AFG/13/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34417	AFG/14/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_25220	PAK/20/2015	cattle	97.0	0	A	ASIA	Iran-05	FAR-11
viba_25216	PAK/17/2015	water buffalo	97.0	0	A	ASIA	Iran-05	FAR-11
viba_22431	PAK/33/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25212	PAK/16/2015	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25208	PAK/15/2015	water buffalo	96.8	0	A	ASIA	Iran-05	FAR-11
viba_22439	PAK/41/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_594	IRN/1/2011	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_414	AFG/6/2007	bovine	93.2	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	92.6	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	92.4	0	A	ASIA	Iran-05	
viba_319	BAR/6/2008	bovine	92.3	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_331	AFG/10/2010		92.1	0	A	ASIA	Iran-05	HER-10
viba_791	IRN/125/2010	bovine	91.9	0	A	ASIA	Iran-05	SIS-10
viba_403	TUR/1/2008	cattle	91.9	0	A	ASIA	Iran-05	ARD-07
viba_308	IRN/9/2011	bovine	91.5	0	A	ASIA	Iran-05	QAZ-11

Virus sample name:	AFG/13/2017
Sender reference:	8812
Location of origin:	Paryan, Panjsher
Country of origin:	Afghanistan
Date of collection:	25/03/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	04/08/2017
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34411, genome 34412, sequence viba_34413, sequencing info 34414	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34389	AFG/2/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34409	AFG/11/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34397	AFG/4/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34417	AFG/14/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_25220	PAK/20/2015	cattle	97.0	0	A	ASIA	Iran-05	FAR-11
viba_25216	PAK/17/2015	water buffalo	97.0	0	A	ASIA	Iran-05	FAR-11
viba_22431	PAK/33/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25212	PAK/16/2015	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25208	PAK/15/2015	water buffalo	96.8	0	A	ASIA	Iran-05	FAR-11
viba_22439	PAK/41/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_594	IRN/1/2011	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_414	AFG/6/2007	bovine	93.2	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	92.6	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	92.4	0	A	ASIA	Iran-05	
viba_319	BAR/6/2008	bovine	92.3	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_331	AFG/10/2010		92.1	0	A	ASIA	Iran-05	HER-10
viba_791	IRN/125/2010	bovine	91.9	0	A	ASIA	Iran-05	SIS-10
viba_403	TUR/1/2008	cattle	91.9	0	A	ASIA	Iran-05	ARD-07
viba_308	IRN/9/2011	bovine	91.5	0	A	ASIA	Iran-05	QAZ-11

Virus sample name:	AFG/14/2017
Sender reference:	8815
Location of origin:	Wonabah, Panjsher
Country of origin:	Afghanistan
Date of collection:	26/03/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy2
Harvest date of material:	05/08/2017
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34415, genome 34416, sequence viba_34417, sequencing info 34418	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34389	AFG/2/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34409	AFG/11/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34397	AFG/4/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_34413	AFG/13/2017	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_25220	PAK/20/2015	cattle	97.0	0	A	ASIA	Iran-05	FAR-11
viba_25216	PAK/17/2015	water buffalo	97.0	0	A	ASIA	Iran-05	FAR-11
viba_22431	PAK/33/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25212	PAK/16/2015	cattle	96.8	0	A	ASIA	Iran-05	FAR-11
viba_25208	PAK/15/2015	water buffalo	96.8	0	A	ASIA	Iran-05	FAR-11
viba_22439	PAK/41/2014	cattle	96.8	0	A	ASIA	Iran-05	FAR-11

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_594	IRN/1/2011	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_414	AFG/6/2007	bovine	93.2	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	92.6	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	92.4	0	A	ASIA	Iran-05	
viba_319	BAR/6/2008	bovine	92.3	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_331	AFG/10/2010		92.1	0	A	ASIA	Iran-05	HER-10
viba_791	IRN/125/2010	bovine	91.9	0	A	ASIA	Iran-05	SIS-10
viba_403	TUR/1/2008	cattle	91.9	0	A	ASIA	Iran-05	ARD-07
viba_308	IRN/9/2011	bovine	91.5	0	A	ASIA	Iran-05	QAZ-11

Virus sample name:	AFG/25/2017
Sender reference:	9141
Location of origin:	Wonabah, Panjsher
Country of origin:	Afghanistan
Date of collection:	27/04/2017
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	SIS-13
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy2
Harvest date of material:	08/08/2017
Primers:	A-1C562F/EUR-2B52R
Received for sequencing:	15/08/2017
Created:	25/08/2017
Last updated:	25/08/2017
VIBASys IDs: sample 34419, genome 34420, sequence viba_34421, sequencing info 34422	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34401	AFG/6/2017	cattle	99.8	0	A	ASIA	Iran-05	SIS-13
viba_34393	AFG/3/2017	cattle	99.7	0	A	ASIA	Iran-05	SIS-13
viba_34405	AFG/10/2017	cattle	99.4	0	A	ASIA	Iran-05	SIS-13
viba_22410	PAK/10/2014	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_22454	PAK/14/2014	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_20947	IRN/28/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_20943	IRN/27/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_25947	PAK/53/2015	cattle	95.7	0	A	ASIA	Iran-05	SIS-13
viba_22406	PAK/8/2014	water buffalo	95.6	0	A	ASIA	Iran-05	SIS-13
viba_22443	PAK/42/2014	water buffalo	95.3	0	A	ASIA	Iran-05	SIS-13

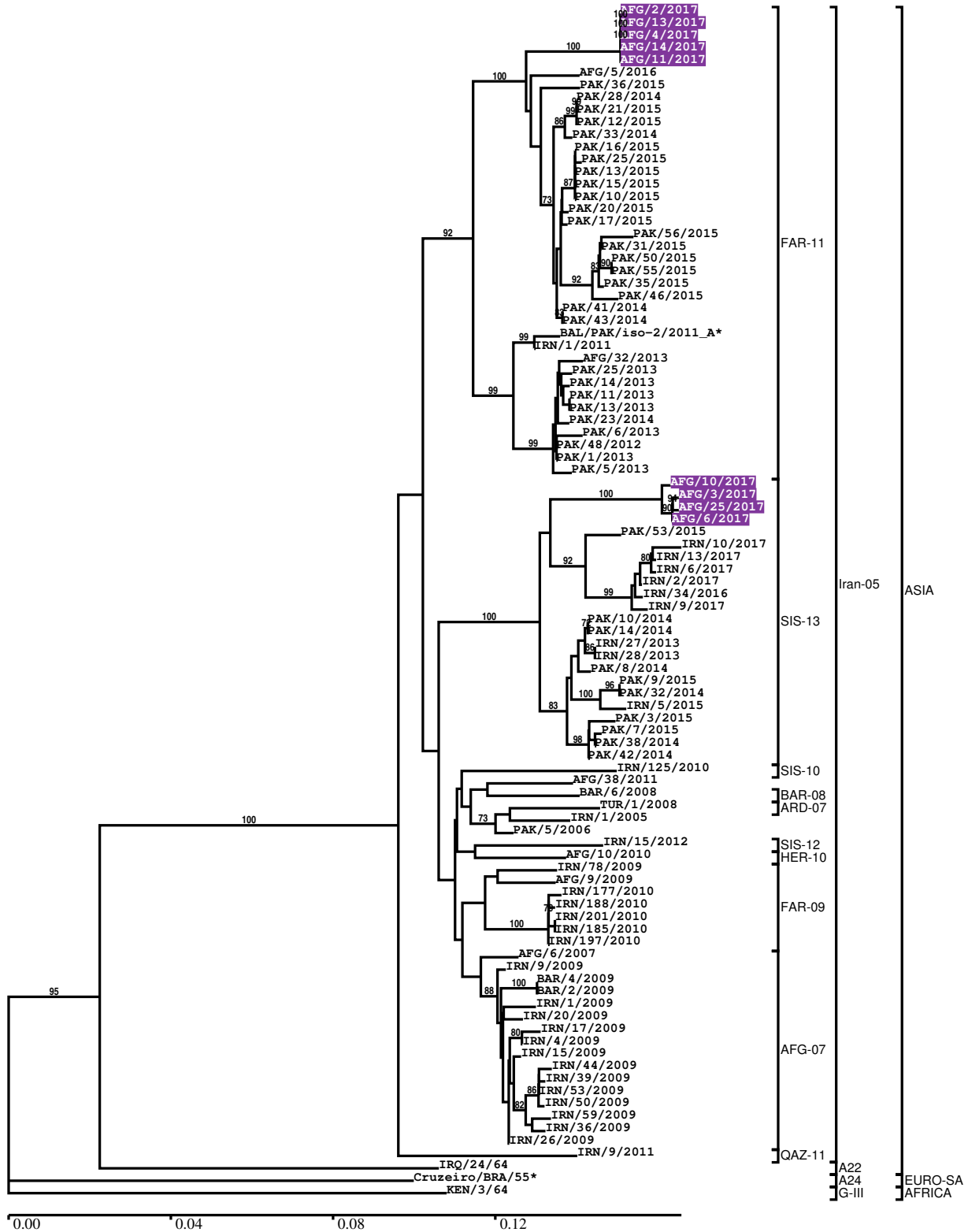
Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20943	IRN/27/2013	cattle	95.9	0	A	ASIA	Iran-05	SIS-13
viba_636	IRN/78/2009		92.3	0	A	ASIA	Iran-05	FAR-09
viba_414	AFG/6/2007	bovine	91.5	0	A	ASIA	Iran-05	AFG-07
viba_331	AFG/10/2010		91.3	0	A	ASIA	Iran-05	HER-10
viba_319	BAR/6/2008	bovine	90.8	0	A	ASIA	Iran-05	BAR-08
viba_594	IRN/1/2011	bovine	90.8	0	A	ASIA	Iran-05	FAR-11
viba_403	TUR/1/2008	cattle	90.0	0	A	ASIA	Iran-05	ARD-07
viba_791	IRN/125/2010	bovine	89.9	0	A	ASIA	Iran-05	SIS-10
viba_557	IRN/15/2012	bovine	89.9	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	89.9	0	A	ASIA	Iran-05	

Report on FMDV A in Afghanistan in 2017

Batch: WRLFMD/2017/00018



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_A
Query sequence set:	WRLFMD/2017/00018-Afghanistan-A (9 sequences)
Sequence database set:	allseqs_A (1685 sequences)
Prototype sequence set:	!prototypes_A (35 sequences)
Number of related sequences reported:	10
Minimal VP1 subsequence match length	600
Sequence alignment method:	muscle (default parameters)
Sequence alignment length:	633
Phylogeny reconstruction method:	fdnadist, fneighbor
Number of bootstrap samples:	1000
Random seed for bootstrapping:	1
Displaying bootstrap values above:	70.0%
Number of sequences in tree capped at:	100
Number of prototype sequences in tree:	11
VIBASys version:	master-1.1.0-17-gf69a4d1

Sequences in the Phylogenetic Tree

All sequences in the tree are in taxonomic group FMDV/A

label	accession	host(s)	lab	country	taxonomic information
AFG/2/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/13/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/4/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/14/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/11/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/5/2016	n/a	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
PAK/36/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/28/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/21/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/12/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/33/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/16/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/25/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/13/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/15/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/10/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/20/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/17/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/56/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/31/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/50/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/55/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/35/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/46/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/41/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/43/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
BAL/PAK/iso-2/2011_A*	JX435106	cattle	ANSES	Pakistan	ASIA/Iran-05/FAR-11
IRN/1/2011	KY091292	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
AFG/32/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
PAK/25/2013	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/14/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/11/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/13/2013	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/23/2014	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/6/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/48/2012	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11

continued on next page

label	accession	host(s)	lab	country	taxonomic information
PAK/1/2013	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/5/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
AFG/10/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
AFG/3/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
AFG/25/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
AFG/6/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
PAK/53/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
IRN/10/2017	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/13/2017	n/a	sheep	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/6/2017	n/a	sheep	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/2/2017	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/34/2016	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/9/2017	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
PAK/10/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/14/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
IRN/27/2013	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/28/2013	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
PAK/8/2014	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/9/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/32/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
IRN/5/2015	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
PAK/3/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/7/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/38/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/42/2014	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
IRN/125/2010	KY091296	bovine	WRLFMD	Iran	ASIA/Iran-05/SIS-10
AFG/38/2011	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05
BAR/6/2008	FJ755010	bovine	WRLFMD	Bahrain	ASIA/Iran-05/BAR-08
TUR/1/2008	FJ755133	cattle	WRLFMD	Turkey	ASIA/Iran-05/ARD-07
IRN/1/2005	EF208769	cattle	WRLFMD	Iran	ASIA/Iran-05
PAK/5/2006	FJ755084	cattle	n/a	Pakistan	ASIA/Iran-05
IRN/15/2012	KY091297	bovine	WRLFMD	Iran	ASIA/Iran-05/SIS-12
AFG/10/2010	KY091293	n/a	WRLFMD	Afghanistan	ASIA/Iran-05/HER-10
IRN/78/2009	KY091291	n/a	WRLFMD	Iran	ASIA/Iran-05/FAR-09
AFG/9/2009	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-09
IRN/177/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/FAR-09
IRN/188/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/FAR-09
IRN/201/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/FAR-09
IRN/185/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/FAR-09
IRN/197/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/FAR-09
AFG/6/2007	FJ755007	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/AFG-07
IRN/9/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
BAR/4/2009	n/a	cattle	WRLFMD	Bahrain	ASIA/Iran-05/AFG-07
BAR/2/2009	n/a	cattle	WRLFMD	Bahrain	ASIA/Iran-05/AFG-07
IRN/1/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/20/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/17/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/4/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/15/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/44/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/39/2009	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/53/2009	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/50/2009	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/59/2009	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/36/2009	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/26/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/9/2011	KY091295	bovine	WRLFMD	Iran	ASIA/Iran-05/QAZ-11
IRQ/24/64	AY593763	bovine	PIADC	Iraq	ASIA/A22
Cruzeiro/BRA/55*	AY593768	bovine	PIADC	Brazil	EURO-SA/A24
KEN/3/64	AY593761	n/a	PIADC	Kenya	AFRICA/G-III

*, not a WRLFMD Reference Number
n/a, not available