

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

Genotyping Report

FMDV serotype: O
Country: Iran
Year: 2018
Batch: WRLFMD/2018/00007
No. of sequences: 11
Report date: 9th April 2018
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:	IRN/1/2018
Sender reference:	IR-96-71
Location of origin:	Mashad, Razavi
Country of origin:	Iran
Date of collection:	03/01/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	ANT-10
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	13/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36062, genome 36063, sequence viba_36064, sequencing info 36065	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_33631	IRN/3/2017	sheep	98.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_33635	IRN/5/2017	cattle	98.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_33623	IRN/36/2016	sheep	98.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_33639	IRN/8/2017	cattle	98.7	0	O	ME-SA	PanAsia-2	ANT-10
viba_33627	IRN/37/2016	cattle	98.7	0	O	ME-SA	PanAsia-2	ANT-10
viba_33619	IRN/35/2016	cattle	98.7	0	O	ME-SA	PanAsia-2	ANT-10
viba_33643	IRN/11/2017	cattle	98.4	0	O	ME-SA	PanAsia-2	ANT-10
viba_34937	PAK/7/2016	cattle	98.3	0	O	ME-SA	PanAsia-2	ANT-10
viba_33615	IRN/31/2016	cattle	98.1	0	O	ME-SA	PanAsia-2	ANT-10
viba_34280	AFG/35/2017	cattle	97.9	0	O	ME-SA	PanAsia-2	ANT-10

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_719	IRN/88/2009		93.4	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	91.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_354	PAK/16/2010	cattle	91.0	0	O	ME-SA	PanAsia-2	PUN-10
viba_650	IRN/8/2005	ovine	90.7	0	O	ME-SA	PanAsia-2	
viba_491	TUR/257/2008		90.7	0	O	ME-SA	PanAsia-2	TER-08
viba_666	IRN/18/2010	cattle	90.4	0	O	ME-SA	PanAsia-2	BAL-09
viba_505	TUR/264/2009		90.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	89.7	0	O	ME-SA	PanAsia	
viba_850	NEP/1/2015	cattle	89.4	1	O	ME-SA	PanAsia-2	KAT-15
viba_860	IRN/6/2015	cattle	89.4	0	O	ME-SA	PanAsia-2	QOM-15

Virus sample name:	IRN/8/2018
Sender reference:	IR-96-66
Location of origin:	Kashan, Esfahan
Country of origin:	Iran
Date of collection:	22/01/2018
Host species:	sheep
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	13/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36066, genome 36067, sequence viba_36068, sequencing info 36069	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36072	IRN/11/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	99.1	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.6	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.9	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.5	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/11/2018
Sender reference:	IR-96-68
Location of origin:	Savojbelagh, Alborz
Country of origin:	Iran
Date of collection:	26/01/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	14/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36070, genome 36071, sequence viba_36072, sequencing info 36073	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36080	IRN/13/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	99.1	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.6	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.9	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.5	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/12/2018
Sender reference:	IR-96-65
Location of origin:	Lenjan, Esfahan
Country of origin:	Iran
Date of collection:	28/01/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	13/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36074, genome 36075, sequence viba_36076, sequencing info 36077	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36104	IRN/24/2018	cattle	98.9	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_23740	KUW/2/2016	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36072	IRN/11/2018	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_23744	KUW/4/2016	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27669	IRN/9/2016	dog	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	98.7	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	98.1	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.2	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	92.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	91.9	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.6	0	O	ME-SA	PanAsia-2	ANT-10
viba_491	TUR/257/2008		91.6	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_850	NEP/1/2015	cattle	91.2	1	O	ME-SA	PanAsia-2	KAT-15
viba_505	TUR/264/2009		90.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.0	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/13/2018
Sender reference:	IR-96-85
Location of origin:	Ahar, West Azerbaijan
Country of origin:	Iran
Date of collection:	28/01/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	14/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36078, genome 36079, sequence viba_36080, sequencing info 36081	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36072	IRN/11/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	99.1	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.6	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.9	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.5	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/15/2018
Sender reference:	IR-96-62
Location of origin:	Qom, Qom
Country of origin:	Iran
Date of collection:	31/01/2018
Host species:	sheep
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	14/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36082, genome 36083, sequence viba_36084, sequencing info 36085	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36072	IRN/11/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.5	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	98.9	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.5	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.0	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.4	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.8	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.4	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/16/2018
Sender reference:	IR-96-64
Location of origin:	Rey, Tehran
Country of origin:	Iran
Date of collection:	31/01/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	14/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36086, genome 36087, sequence viba_36088, sequencing info 36089	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36072	IRN/11/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	99.1	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.6	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.9	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.5	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/20/2018
Sender reference:	IR-96-61
Location of origin:	Jafariyeh, Qom
Country of origin:	Iran
Date of collection:	05/02/2018
Host species:	sheep
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	15/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36090, genome 36091, sequence viba_36092, sequencing info 36093	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36072	IRN/11/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.5	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	98.9	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.5	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.0	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.4	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.8	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.3	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.4	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/21/2018
Sender reference:	IR-96-82
Location of origin:	Qom, Qom
Country of origin:	Iran
Date of collection:	10/02/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	16/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36094, genome 36095, sequence viba_36096, sequencing info 36097	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36104	IRN/24/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36072	IRN/11/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.4	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.4	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	98.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.3	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	92.9	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.3	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.6	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.6	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.6	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.2	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		90.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.2	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/22/2018
Sender reference:	IR-96-80
Location of origin:	Rey, Tehran
Country of origin:	Iran
Date of collection:	12/02/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	16/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36098, genome 36099, sequence viba_36100, sequencing info 36101	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36072	IRN/11/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	100.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36104	IRN/24/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36096	IRN/21/2018	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.7	0	O	ME-SA	PanAsia-2	QOM-15

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_860	IRN/6/2015	cattle	99.1	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.6	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.9	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.5	0	O	ME-SA	PanAsia	

Virus sample name:	IRN/24/2018
Sender reference:	IR-96-83
Location of origin:	Qom, Qom
Country of origin:	Iran
Date of collection:	14/02/2018
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	QOM-15
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	15/03/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	05/04/2018
Last updated:	05/04/2018
VIBASys IDs: sample 36102, genome 36103, sequence viba_36104, sequencing info 36105	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36096	IRN/21/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36072	IRN/11/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36080	IRN/13/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36068	IRN/8/2018	sheep	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36100	IRN/22/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36088	IRN/16/2018	cattle	99.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_36092	IRN/20/2018	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_36084	IRN/15/2018	sheep	99.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_27681	IRN/15/2016	sheep	99.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_27677	IRN/13/2016	cattle	99.5	0	O	ME-SA	PanAsia-2	QOM-15

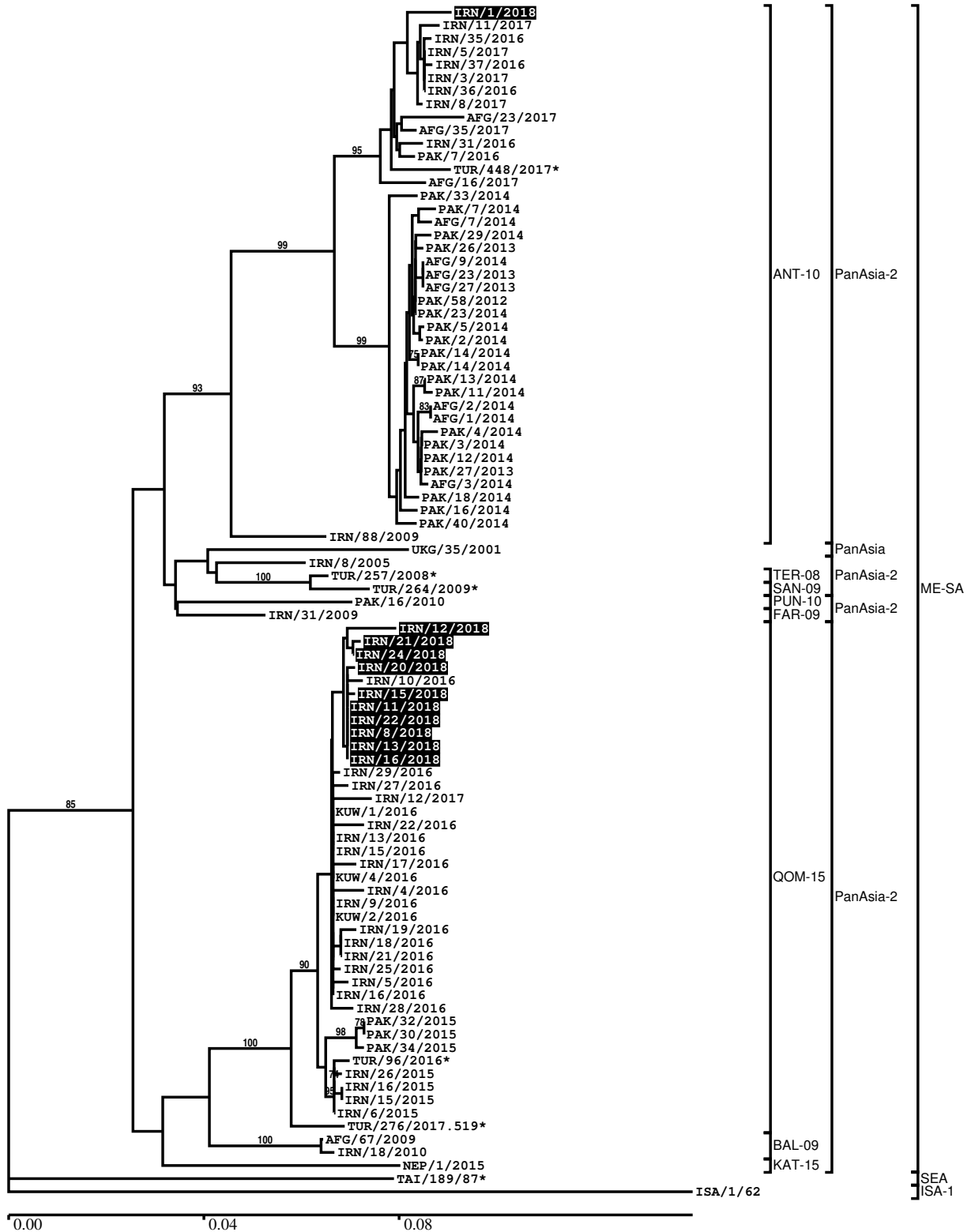
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_860	IRN/6/2015	cattle	98.9	0	O	ME-SA	PanAsia-2	QOM-15
viba_666	IRN/18/2010	cattle	94.5	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	93.0	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	92.4	0	O	ME-SA	PanAsia-2	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_850	NEP/1/2015	cattle	91.8	1	O	ME-SA	PanAsia-2	KAT-15
viba_491	TUR/257/2008		91.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	91.3	0	O	ME-SA	PanAsia-2	PUN-10
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_285	UKG/35/2001	porcine	90.4	0	O	ME-SA	PanAsia	

Report on FMDV O in Iran in 2018

Batch: WRLFMD/2018/00007



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor: vp1_O
 Query sequence set: WRLFMD/2018/00007-Iran-O (11 sequences)
 Sequence database set: allseqs_O (3755 sequences)
 Prototype sequence set: !prototypes_O (48 sequences)
 Number of related sequences reported: 10
 Minimal VP1 subsequence match length: 600
 Sequence alignment method: muscle (default parameters)
 Sequence alignment length: 636
 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: 10
 VIBASys version: reflabs-1.1.2

Sequences in the Phylogenetic Tree

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

label	accession	host(s)	lab	country	taxonomic information
IRN/1/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/11/2017	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/35/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/5/2017	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/37/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/3/2017	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/36/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/8/2017	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
AFG/23/2017	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
AFG/35/2017	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
IRN/31/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
PAK/7/2016	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
TUR/448/2017*	n/a	sheep	FMDI	Turkey	ME-SA/PanAsia-2/ANT-10
AFG/16/2017	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
PAK/33/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/7/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
AFG/7/2014	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
PAK/29/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/26/2013	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
AFG/9/2014	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
AFG/23/2013	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
AFG/27/2013	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
PAK/58/2012	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/23/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/5/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/2/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/14/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/14/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/13/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/11/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
AFG/2/2014	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
AFG/1/2014	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
PAK/4/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/3/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/12/2014	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/27/2013	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10

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label	accession	host(s)	lab	country	taxonomic information
AFG/3/2014	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2/ANT-10
PAK/18/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/16/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/40/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
IRN/88/2009	KY091282	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
IRN/8/2005	KY091281	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
TUR/257/2008*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/TER-08
TUR/264/2009*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/SAN-09
PAK/16/2010	KY091285	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/PUN-10
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/12/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/21/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/24/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/20/2018	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/10/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/15/2018	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/11/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/22/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/8/2018	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/13/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/16/2018	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/29/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/27/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/12/2017	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
KUW/1/2016	n/a	cattle	WRLFMD	Kuwait	ME-SA/PanAsia-2/QOM-15
IRN/22/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/13/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/15/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/17/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
KUW/4/2016	n/a	cattle	WRLFMD	Kuwait	ME-SA/PanAsia-2/QOM-15
IRN/4/2016	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/9/2016	n/a	dog	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
KUW/2/2016	n/a	cattle	WRLFMD	Kuwait	ME-SA/PanAsia-2/QOM-15
IRN/19/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/18/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/21/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/25/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/5/2016	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/16/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/28/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
PAK/32/2015	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/QOM-15
PAK/30/2015	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/QOM-15
PAK/34/2015	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/QOM-15
TUR/96/2016*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/QOM-15
IRN/26/2015	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/16/2015	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/15/2015	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/6/2015	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
TUR/276/2017.519*	n/a	n/a	FMDI	Turkey	ME-SA/PanAsia-2/QOM-15
AFG/67/2009	n/a	n/a	WRLFMD	Afghanistan	ME-SA/PanAsia-2/BAL-09
IRN/18/2010	KY091283	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/BAL-09
NEP/1/2015	n/a	cattle	WRLFMD	Nepal	ME-SA/PanAsia-2/KAT-15
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

*, not a WRLFMD Reference Number

n/a, not available