

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

Genotyping Report

VP1 sequence provided by Dr. Alexei Scherbakov, FGBI-ARRIAH

FMDV serotype: O
Country: Russia
Year: 2017
Batch: WRLMEG/2017/00051
No. of sequences: 1
Sequence received: 13th October 2017
Report date: 13th October 2017
Report generated by: Nick Knowles
Report checked by: Antonello Di Nardo



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

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Virus sample name:	Bashkortostan/RUS/2017
Sender reference:	O/Bashkortostan/RUS/2017
Location of origin:	Urmekeevo, Tuymazinsky, Bashkortostan
Country of origin:	Russia
Date of collection:	30/09/2017
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	13/10/2017
Last updated:	13/10/2017
VIBASys IDs: sample 34862, genome 34863, sequence viba_34864, sequencing info 34865	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20073	PAK/41/2012	cattle	95.9	0	O	ME-SA		
viba_20069	PAK/40/2012	cattle	95.9	0	O	ME-SA		
viba_20081	PAK/53/2012	water buffalo	95.7	0	O	ME-SA		
viba_20077	PAK/51/2012	cattle	95.6	0	O	ME-SA		
viba_21928	PAK/22/2013	water buffalo	95.6	0	O	ME-SA		
viba_23066	PAK/17/2014	water buffalo	95.3	0	O	ME-SA		
viba_20085	PAK/55/2012	cattle	95.3	0	O	ME-SA		
viba_22900	IRN/1/2014	bovine	95.1	0	O	ME-SA		
viba_21780	IRN/31/2013	cattle	94.9	0	O	ME-SA		
viba_8869	IRN/29/2006	cattle	92.9	0	O	ME-SA	PanAsia-2	

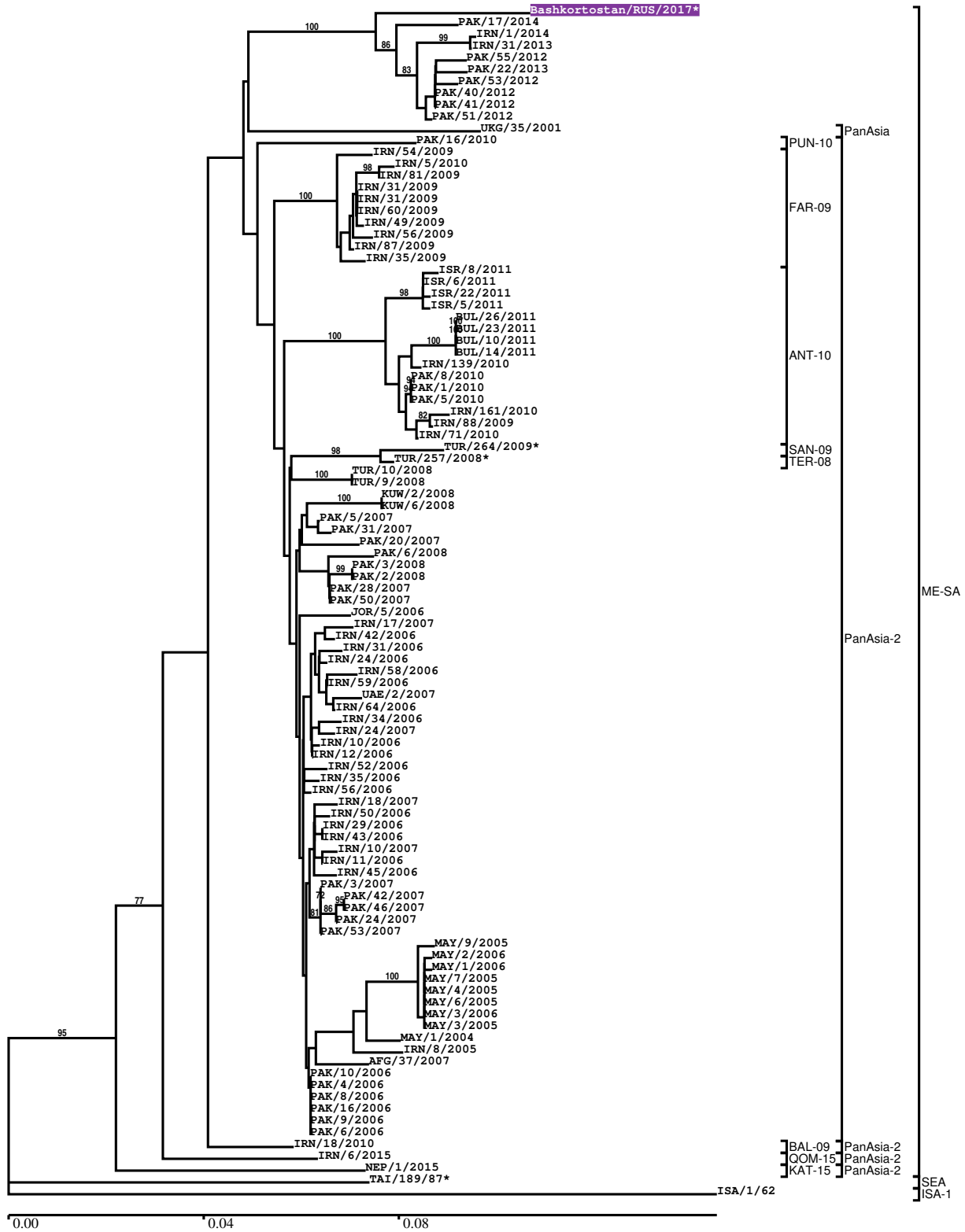
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_766	IRN/31/2009	cattle	92.3	0	O	ME-SA	PanAsia-2	FAR-09
viba_505	TUR/264/2009		92.3	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		92.0	0	O	ME-SA	PanAsia-2	ANT-10
viba_491	TUR/257/2008		91.8	0	O	ME-SA	PanAsia-2	TER-08
viba_666	IRN/18/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	91.3	0	O	ME-SA	PanAsia-2	
viba_354	PAK/16/2010	cattle	91.2	0	O	ME-SA	PanAsia-2	PUN-10
viba_285	UKG/35/2001	porcine	90.0	0	O	ME-SA	PanAsia	
viba_860	IRN/6/2015	cattle	89.9	0	O	ME-SA	PanAsia-2	QOM-15
viba_850	NEP/1/2015	cattle	89.6	1	O	ME-SA	PanAsia-2	KAT-15

Report on FMDV O in Russia in 2017

Batch: WRLMEG/2017/00051



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLMEG/2017/00051-Russia-O (1 sequences)
Sequence database set:	allseqs_O (3617 sequences)
Prototype sequence set:	!prototypes_O (47 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:	master-1.1.0-17-gf69a4d1

Sequences in the Phylogenetic Tree

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

label	accession	host(s)	lab	country	taxonomic information
Bashkortostan/RUS/2017*	n/a	cattle	ARRIAH	Russia	ME-SA
PAK/17/2014	n/a	water buffalo	WRLFMD	Pakistan	ME-SA
IRN/1/2014	n/a	bovine	WRLFMD	Iran	ME-SA
IRN/31/2013	n/a	cattle	WRLFMD	Iran	ME-SA
PAK/55/2012	n/a	cattle	WRLFMD	Pakistan	ME-SA
PAK/22/2013	n/a	water buffalo	WRLFMD	Pakistan	ME-SA
PAK/53/2012	n/a	water buffalo	WRLFMD	Pakistan	ME-SA
PAK/40/2012	n/a	cattle	WRLFMD	Pakistan	ME-SA
PAK/41/2012	n/a	cattle	WRLFMD	Pakistan	ME-SA
PAK/51/2012	n/a	cattle	WRLFMD	Pakistan	ME-SA
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
PAK/16/2010	KY091285	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/PUN-10
IRN/54/2009	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/5/2010	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/81/2009	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/31/2009	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/60/2009	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/49/2009	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/56/2009	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/87/2009	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/35/2009	n/a	goats	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
ISR/8/2011	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
ISR/6/2011	n/a	sheep	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
ISR/22/2011	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
ISR/5/2011	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
BUL/26/2011	n/a	cattle	WRLFMD	Bulgaria	ME-SA/PanAsia-2/ANT-10
BUL/23/2011	n/a	cattle	WRLFMD	Bulgaria	ME-SA/PanAsia-2/ANT-10
BUL/10/2011	n/a	cattle	WRLFMD	Bulgaria	ME-SA/PanAsia-2/ANT-10
BUL/14/2011	n/a	cattle	WRLFMD	Bulgaria	ME-SA/PanAsia-2/ANT-10
IRN/139/2010	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
PAK/8/2010	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/1/2010	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/5/2010	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
IRN/161/2010	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10

continued on next page

label	accession	host(s)	lab	country	taxonomic information
IRN/88/2009	KY091282	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/71/2010	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
TUR/264/2009*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/SAN-09
TUR/257/2008*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/TER-08
TUR/10/2008	n/a	cattle	WRLFMD	Turkey	ME-SA/PanAsia-2
TUR/9/2008	n/a	cattle	WRLFMD	Turkey	ME-SA/PanAsia-2
KUW/2/2008	n/a	cattle	WRLFMD	Kuwait	ME-SA/PanAsia-2
KUW/6/2008	n/a	cattle	WRLFMD	Kuwait	ME-SA/PanAsia-2
PAK/5/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/31/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/20/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/6/2008	FJ798193	n/a	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/3/2008	FJ798192	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/2/2008	FJ798191	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/28/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/50/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
JOR/5/2006	n/a	sheep	WRLFMD	Jordan	ME-SA/PanAsia-2
IRN/17/2007	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/42/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/31/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/24/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/58/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/59/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
UAE/2/2007	n/a	gazelle	WRLFMD	United Arab Emirates	ME-SA/PanAsia-2
IRN/64/2006	n/a	cattle	n/a	Iran	ME-SA/PanAsia-2
IRN/34/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/24/2007	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/10/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/12/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/52/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/35/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/56/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/18/2007	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/50/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/29/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/43/2006	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/10/2007	n/a	goats	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/11/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/45/2006	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2
PAK/3/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/42/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/46/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/24/2007	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/53/2007	FJ798179	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
MAY/9/2005	HQ116203	water buffalo	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/2/2006	HQ116205	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/1/2006	HQ116204	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/7/2005	HQ116201	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/4/2005	HQ116199	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/6/2005	HQ116200	porcine	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/3/2006	HQ116206	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/3/2005	HQ116198	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
MAY/1/2004	HQ116193	cattle	WRLFMD	Malaysia	ME-SA/PanAsia-2
IRN/8/2005	KY091281	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
AFG/37/2007	n/a	cattle	WRLFMD	Afghanistan	ME-SA/PanAsia-2
PAK/10/2006	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/4/2006	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/8/2006	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/16/2006	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/9/2006	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2
PAK/6/2006	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2
IRN/18/2010	KY091283	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/BAL-09
IRN/6/2015	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
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