

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

## Genotyping Report

FMDV serotype: A  
Country: Pakistan  
Year: 2016, 2019, 2020  
Batch: WRLFMD/2020/00002  
No. of sequences: 5  
Report date: 29th June 2020  
Report generated by: Nick Knowles  
Report checked by: Jemma Wadsworth



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Virus sample name:	PAK/30/2016
Sender reference:	PK/20/46 (17)
Location of origin:	Lahore, Punjab
Country of origin:	Pakistan
Date of collection:	13/08/2016
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/03/2020
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	22/06/2020
Created:	29/06/2020
Last updated:	29/06/2020

VIBASys IDs: sample 44772, genome 44773, sequence viba\_44774, sequencing info 44775

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_44778	PAK/31/2016	cattle	100.0	0	A	ASIA	Iran-05	
viba_8417	TUR/7/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_8449	TUR/17/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_8405	TUR/3/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_8397	TUR/1/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_7028	TUR/9/2005	cattle	99.1	0	A	ASIA	Iran-05	
viba_8433	TUR/11/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_6911	IRN/31/2005	cattle	98.9	0	A	ASIA	Iran-05	
viba_8457	TUR/19/2006	cattle	98.9	0	A	ASIA	Iran-05	
viba_8429	TUR/10/2006	cattle	98.9	0	A	ASIA	Iran-05	

#### Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_133	IRN/1/2005	cattle	98.3	0	A	ASIA	Iran-05	
viba_429	TUR/33/2008	cattle	96.8	0	A	ASIA	Iran-05	EZM-07
viba_403	TUR/1/2008	cattle	96.5	0	A	ASIA	Iran-05	ARD-07
viba_414	AFG/6/2007	bovine	95.7	0	A	ASIA	Iran-05	AFG-07
viba_34487	SAR/AFG/L1435/2009	cattle	94.6	0	A	ASIA	Iran-05	SAR-09
viba_10508	PAK/7/2008	water buffalo	94.5	0	A	ASIA	Iran-05	SIN-08
viba_319	BAR/6/2008	bovine	94.5	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		94.2	0	A	ASIA	Iran-05	FAR-09
viba_13615	IRN/134/2010	cattle	94.0	0	A	ASIA	Iran-05	HER-10
viba_486	TUR/3/2010	cattle	94.0	0	A	ASIA	Iran-05	KSS-09

Virus sample name:	PAK/31/2016
Sender reference:	PK/20/45 (13)
Location of origin:	Lahore, Punjab
Country of origin:	Pakistan
Date of collection:	31/10/2016
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/03/2020
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	22/06/2020
Created:	29/06/2020
Last updated:	29/06/2020
VIBASys IDs: sample 44776, genome 44777, sequence viba_44778, sequencing info 44779	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_44774	PAK/30/2016	cattle	100.0	0	A	ASIA	Iran-05	
viba_8417	TUR/7/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_8449	TUR/17/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_8405	TUR/3/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_8397	TUR/1/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_7028	TUR/9/2005	cattle	99.1	0	A	ASIA	Iran-05	
viba_8433	TUR/11/2006	cattle	99.1	0	A	ASIA	Iran-05	
viba_6911	IRN/31/2005	cattle	98.9	0	A	ASIA	Iran-05	
viba_8457	TUR/19/2006	cattle	98.9	0	A	ASIA	Iran-05	
viba_8429	TUR/10/2006	cattle	98.9	0	A	ASIA	Iran-05	

#### Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_133	IRN/1/2005	cattle	98.3	0	A	ASIA	Iran-05	
viba_429	TUR/33/2008	cattle	96.8	0	A	ASIA	Iran-05	EZM-07
viba_403	TUR/1/2008	cattle	96.5	0	A	ASIA	Iran-05	ARD-07
viba_414	AFG/6/2007	bovine	95.7	0	A	ASIA	Iran-05	AFG-07
viba_34487	SAR/AFG/L1435/2009	cattle	94.6	0	A	ASIA	Iran-05	SAR-09
viba_10508	PAK/7/2008	water buffalo	94.5	0	A	ASIA	Iran-05	SIN-08
viba_319	BAR/6/2008	bovine	94.5	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		94.2	0	A	ASIA	Iran-05	FAR-09
viba_13615	IRN/134/2010	cattle	94.0	0	A	ASIA	Iran-05	HER-10
viba_486	TUR/3/2010	cattle	94.0	0	A	ASIA	Iran-05	KSS-09

Virus sample name:	PAK/73/2019
Sender reference:	PK/20/50 (5232)
Location of origin:	Charsadda, Khyber Pakhtunkhwa
Country of origin:	Pakistan
Date of collection:	23/07/2019
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:	17/03/2020
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	22/06/2020
Created:	29/06/2020
Last updated:	29/06/2020
VIBASys IDs: sample 44780, genome 44781, sequence viba_44782, sequencing info 44783	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_30276	AFG/5/2016	bovine	96.2	0	A	ASIA	Iran-05	FAR-11
viba_35086	PAK/25/2016	water buffalo	96.2	0	A	ASIA	Iran-05	FAR-11
viba_22431	PAK/33/2014	cattle	96.1	0	A	ASIA	Iran-05	FAR-11
viba_22439	PAK/41/2014	cattle	96.1	0	A	ASIA	Iran-05	FAR-11
viba_22447	PAK/43/2014	cattle	96.1	0	A	ASIA	Iran-05	FAR-11
viba_25216	PAK/17/2015	water buffalo	95.9	0	A	ASIA	Iran-05	FAR-11
viba_22423	PAK/28/2014	cattle	95.9	0	A	ASIA	Iran-05	FAR-11
viba_25220	PAK/20/2015	cattle	95.9	0	A	ASIA	Iran-05	FAR-11
viba_25224	PAK/21/2015	cattle	95.9	0	A	ASIA	Iran-05	FAR-11
viba_25935	PAK/36/2015	cattle	95.9	0	A	ASIA	Iran-05	FAR-11

### Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_594	IRN/1/2011	bovine	95.1	0	A	ASIA	Iran-05	FAR-11
viba_414	AFG/6/2007	bovine	93.7	0	A	ASIA	Iran-05	AFG-07
viba_10508	PAK/7/2008	water buffalo	93.5	0	A	ASIA	Iran-05	SIN-08
viba_13615	IRN/134/2010	cattle	93.4	0	A	ASIA	Iran-05	HER-10
viba_319	BAR/6/2008	bovine	93.4	0	A	ASIA	Iran-05	BAR-08
viba_557	IRN/15/2012	bovine	93.2	0	A	ASIA	Iran-05	SIS-12
viba_133	IRN/1/2005	cattle	92.9	0	A	ASIA	Iran-05	
viba_636	IRN/78/2009		92.7	0	A	ASIA	Iran-05	FAR-09
viba_34487	SAR/AFG/L1435/2009	cattle	92.6	0	A	ASIA	Iran-05	SAR-09
viba_403	TUR/1/2008	cattle	92.6	0	A	ASIA	Iran-05	ARD-07

Virus sample name:	PAK/1/2020
Sender reference:	PK/20/40 (777)
Location of origin:	Karachi, Sindh
Country of origin:	Pakistan
Date of collection:	25/01/2020
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:	12/06/2020
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	22/06/2020
Created:	29/06/2020
Last updated:	29/06/2020

VIBASys IDs: sample 44784, genome 44785, sequence viba\_44786, sequencing info 44787

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36032	IRN/6/2018	cattle	97.9	0	A	ASIA	Iran-05	SIS-13
viba_36571	AFG/60/2017	bovine	97.9	0	A	ASIA	Iran-05	SIS-13
viba_36559	AFG/50/2017	bovine	97.9	0	A	ASIA	Iran-05	SIS-13
viba_36060	IRN/4/2018b	cattle	97.8	0	A	ASIA	Iran-05	SIS-13
viba_36056	IRN/4/2018a	cattle	97.8	0	A	ASIA	Iran-05	SIS-13
viba_42520	PAK/1/2018	cattle	97.6	0	A	ASIA	Iran-05	SIS-13
viba_36048	IRN/23/2018	cattle	97.5	0	A	ASIA	Iran-05	SIS-13
viba_42524	PAK/24/2019	cattle	97.5	0	A	ASIA	Iran-05	SIS-13
viba_36024	IRN/2/2018	cattle	97.0	0	A	ASIA	Iran-05	SIS-13
viba_34401	AFG/6/2017	cattle	95.7	0	A	ASIA	Iran-05	SIS-13

#### Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20943	IRN/27/2013	cattle	93.7	0	A	ASIA	Iran-05	SIS-13
viba_636	IRN/78/2009		91.3	0	A	ASIA	Iran-05	FAR-09
viba_13615	IRN/134/2010	cattle	91.0	0	A	ASIA	Iran-05	HER-10
viba_414	AFG/6/2007	bovine	90.9	0	A	ASIA	Iran-05	AFG-07
viba_34671	BAL/PAK/05/2011	cattle	90.7	0	A	ASIA	Iran-05	BAL-11
viba_10508	PAK/7/2008	water buffalo	90.5	0	A	ASIA	Iran-05	SIN-08
viba_557	IRN/15/2012	bovine	90.5	0	A	ASIA	Iran-05	SIS-12
viba_594	IRN/1/2011	bovine	90.4	0	A	ASIA	Iran-05	FAR-11
viba_319	BAR/6/2008	bovine	90.1	0	A	ASIA	Iran-05	BAR-08
viba_34575	BAD/AFG/L2814/2009	cattle	89.8	0	A	ASIA	Iran-05	BAD-09

Virus sample name:	PAK/2/2020
Sender reference:	PK/20/41 (780)
Location of origin:	Karachi, Sindh
Country of origin:	Pakistan
Date of collection:	27/01/2020
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/06/2020
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	22/06/2020
Created:	29/06/2020
Last updated:	29/06/2020

VIBASys IDs: sample 44788, genome 44789, sequence viba\_44790, sequencing info 44791

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34723	SIN/PAK/L574/2009	cattle	92.3	0	A	ASIA	Iran-05	FAR-09
viba_16966	AFG/56/2011		92.3	0	A	ASIA	Iran-05	
viba_16958	AFG/42/2011		92.3	0	A	ASIA	Iran-05	
viba_16906	AFG/12/2011		92.3	0	A	ASIA	Iran-05	
viba_34503	HIR/AFG/L1439/2009	cattle	92.3	0	A	ASIA	Iran-05	FAR-09
viba_16954	AFG/38/2011		92.3	0	A	ASIA	Iran-05	
viba_13597	IRN/7/2010		92.3	0	A	ASIA	Iran-05	AFG-07
viba_13535	AFG/9/2010		92.1	0	A	ASIA	Iran-05	AFG-07
viba_11355	BAR/2/2009	cattle	92.1	0	A	ASIA	Iran-05	AFG-07
viba_34727	SIN/PAK/L578/2009	cattle	92.1	0	A	ASIA	Iran-05	FAR-09

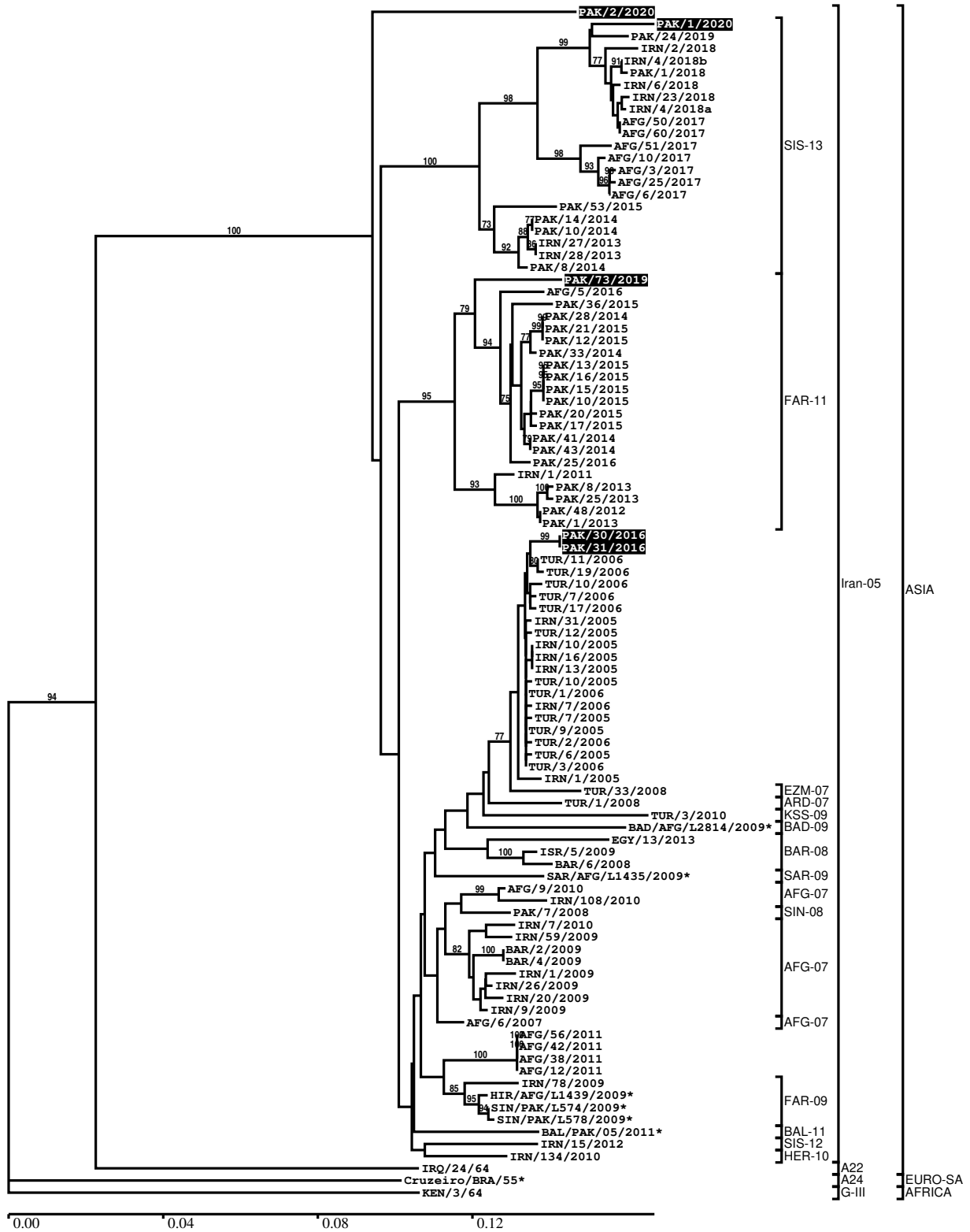
#### Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_13615	IRN/134/2010	cattle	91.7	0	A	ASIA	Iran-05	HER-10
viba_414	AFG/6/2007	bovine	91.6	0	A	ASIA	Iran-05	AFG-07
viba_319	BAR/6/2008	bovine	91.6	0	A	ASIA	Iran-05	BAR-08
viba_636	IRN/78/2009		91.3	0	A	ASIA	Iran-05	FAR-09
viba_10508	PAK/7/2008	water buffalo	91.2	0	A	ASIA	Iran-05	SIN-08
viba_133	IRN/1/2005	cattle	91.0	0	A	ASIA	Iran-05	
viba_403	TUR/1/2008	cattle	90.8	0	A	ASIA	Iran-05	ARD-07
viba_34671	BAL/PAK/05/2011	cattle	90.8	0	A	ASIA	Iran-05	BAL-11
viba_594	IRN/1/2011	bovine	90.7	0	A	ASIA	Iran-05	FAR-11
viba_557	IRN/15/2012	bovine	90.7	0	A	ASIA	Iran-05	SIS-12

Report on FMDV A in Pakistan in 2016, 2019, 2020

Batch: WRLFMD/2020/00002



\*, not a WRLFMD Reference Number

## Analysis Parameters

VP1 subsequence extractor:	vp1_A
Query sequence set:	WRLFMD/2020/00002-Pakistan-A (5 sequences)
Sequence database set:	allseqs_A (2139 sequences)
Prototype sequence set:	!prototypes_A (40 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:	15
VIBASys version:	reflabs-1.1.2

## Sequences in the Phylogenetic Tree

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

label	accession	host(s)	lab	country	taxonomic information
PAK/2/2020	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05
PAK/1/2020	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/24/2019	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
IRN/2/2018	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/4/2018b	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
PAK/1/2018	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
IRN/6/2018	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/23/2018	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
IRN/4/2018a	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/SIS-13
AFG/50/2017	n/a	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
AFG/60/2017	n/a	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
AFG/51/2017	n/a	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/SIS-13
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
PAK/14/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/SIS-13
PAK/10/2014	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/73/2019	n/a	cattle	WRLFMD	Pakistan	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/13/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/16/2015	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/41/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11

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label	accession	host(s)	lab	country	taxonomic information
PAK/43/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/25/2016	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
IRN/1/2011	KY091292	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
PAK/8/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/25/2013	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/48/2012	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/1/2013	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/30/2016	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05
PAK/31/2016	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05
TUR/11/2006	FJ755109	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/19/2006	FJ755115	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/10/2006	FJ755108	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/7/2006	FJ755105	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/17/2006	FJ755113	cattle	WRLFMD	Turkey	ASIA/Iran-05
IRN/31/2005	FJ755041	cattle	WRLFMD	Iran	ASIA/Iran-05
TUR/12/2005	FJ755100	cattle	WRLFMD	Turkey	ASIA/Iran-05
IRN/10/2005	FJ755027	cattle	WRLFMD	Iran	ASIA/Iran-05
IRN/16/2005	FJ755030	cattle	WRLFMD	Iran	ASIA/Iran-05
IRN/13/2005	FJ755028	cattle	WRLFMD	Iran	ASIA/Iran-05
TUR/10/2005	FJ755098	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/1/2006	EU553878	cattle	WRLFMD	Turkey	ASIA/Iran-05
IRN/7/2006	FJ755057	cattle	WRLFMD	Iran	ASIA/Iran-05
TUR/7/2005	FJ755095	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/9/2005	FJ755097	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/2/2006	FJ755101	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/6/2005	FJ755094	cattle	WRLFMD	Turkey	ASIA/Iran-05
TUR/3/2006	FJ755102	cattle	WRLFMD	Turkey	ASIA/Iran-05
IRN/1/2005	EF208769	cattle	WRLFMD	Iran	ASIA/Iran-05
TUR/33/2008	FJ755155	cattle	WRLFMD	Turkey	ASIA/Iran-05/EZM-07
TUR/1/2008	FJ755133	cattle	WRLFMD	Turkey	ASIA/Iran-05/ARD-07
TUR/3/2010	KY091294	cattle	WRLFMD	Turkey	ASIA/Iran-05/KSS-09
BAD/AFG/L2814/2009*	HQ439296	cattle	LINDHOLM	Afghanistan	ASIA/Iran-05/BAD-09
EGY/13/2013	n/a	cattle	WRLFMD	Egypt	ASIA/Iran-05/BAR-08
ISR/5/2009	n/a	sheep	WRLFMD	Israel	ASIA/Iran-05/BAR-08
BAR/6/2008	FJ755010	bovine	WRLFMD	Bahrain	ASIA/Iran-05/BAR-08
SAR/AFG/L1435/2009*	HQ439274	cattle	LINDHOLM	Afghanistan	ASIA/Iran-05/SAR-09
AFG/9/2010	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05/AFG-07
IRN/108/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
PAK/7/2008	MN276047	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/SIN-08
IRN/7/2010	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
IRN/59/2009	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/AFG-07
BAR/2/2009	n/a	cattle	WRLFMD	Bahrain	ASIA/Iran-05/AFG-07
BAR/4/2009	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/26/2009	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/9/2009	n/a	n/a	WRLFMD	Iran	ASIA/Iran-05/AFG-07
AFG/6/2007	FJ755007	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/AFG-07
AFG/56/2011	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05
AFG/42/2011	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05
AFG/38/2011	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05
AFG/12/2011	n/a	n/a	WRLFMD	Afghanistan	ASIA/Iran-05
IRN/78/2009	KY091291	n/a	WRLFMD	Iran	ASIA/Iran-05/FAR-09
HIR/AFG/L1439/2009*	HQ439278	cattle	LINDHOLM	Afghanistan	ASIA/Iran-05/FAR-09
SIN/PAK/L574/2009*	HQ439244	cattle	LINDHOLM	Pakistan	ASIA/Iran-05/FAR-09
SIN/PAK/L578/2009*	HQ439245	cattle	LINDHOLM	Pakistan	ASIA/Iran-05/FAR-09
BAL/PAK/05/2011*	KT832824	cattle	Univ Malakand	Pakistan	ASIA/Iran-05/BAL-11
IRN/15/2012	KY091297	bovine	WRLFMD	Iran	ASIA/Iran-05/SIS-12
IRN/134/2010	n/a	cattle	WRLFMD	Iran	ASIA/Iran-05/HER-10
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