



FMD Genotyping Report

Lab Reference WRL batch Number: WRLFMD/2022/00001

Sender Details:



Date Received: 04/02/2022

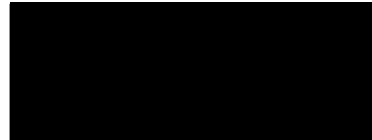
Country of Origin*: PAKISTAN

Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at:
<http://www.wrlfmd.org/>

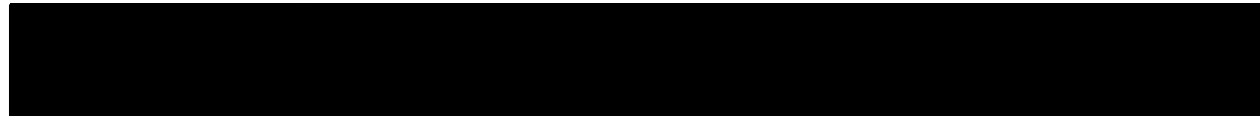
Results Approved By:



Official Stamp:



Date: 16/3/2022



To help us improve the quality of our service, please send any suggestions or requests to the Reference Laboratory by email (reflabsfeedback@pirbright.ac.uk).

* Data supplied by the customer

Batch: IAHB/2022/00202

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

Genotyping Report

FMDV serotype: A
Country: Pakistan
Year: 2021
Batch: WRLFMD/2022/00001
No. of sequences: 4
Report date: 14th March 2022
Report generated by: Nick Knowles
Report checked by: Jemma Wadsworth



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

email: reporting@pirbright.ac.uk

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Virus sample name:	PAK/22/2021
Sender reference:	PK-08
Location of origin:	Khyber, Khyber Pakhtunkhwa
Country of origin:	Pakistan
Date of collection:	15/07/2021
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	16/02/2022
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	07/03/2022
Created:	13/03/2022
Last updated:	13/03/2022
VIBASys IDs: sample 50247, genome 50248, sequence viba_50249, sequencing info 50250	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50253	PAK/28/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50261	PAK/30/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50257	PAK/29/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_44782	PAK/73/2019	cattle	96.5	0	A	ASIA	Iran-05	FAR-11
viba_48504	IRN/20/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48516	IRN/2/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48508	IRN/23/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48532	IRN/8/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45686	IRN/991471/2020	cattle	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45677	IRN/994883/2020	cattle	94.8	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	93.0	0	A	ASIA	Iran-05	FAR-11
viba_13615	IRN/134/2010	cattle	92.2	0	A	ASIA	Iran-05	HER-10
viba_414	AFG/6/2007	bovine	92.1	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	91.8	0	A	ASIA	Iran-05	SIS-12
viba_10508	PAK/7/2008	water buffalo	91.8	0	A	ASIA	Iran-05	SIN-08
viba_34671	BAL/PAK/05/2011	cattle	91.6	0	A	ASIA	Iran-05	BAL-11
viba_403	TUR/1/2008	cattle	91.6	0	A	ASIA	Iran-05	ARD-07
viba_636	IRN/78/2009		91.5	0	A	ASIA	Iran-05	FAR-09
viba_319	BAR/6/2008	bovine	91.5	0	A	ASIA	Iran-05	BAR-08
viba_133	IRN/1/2005	cattle	91.3	0	A	ASIA	Iran-05	

Virus sample name:	PAK/28/2021
Sender reference:	PK-28
Location of origin:	Rawalpindi, Punjab
Country of origin:	Pakistan
Date of collection:	30/09/2021
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	16/02/2022
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	07/03/2022
Created:	13/03/2022
Last updated:	13/03/2022
VIBASys IDs: sample 50251, genome 50252, sequence viba_50253, sequencing info 50254	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50249	PAK/22/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50261	PAK/30/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50257	PAK/29/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_44782	PAK/73/2019	cattle	96.5	0	A	ASIA	Iran-05	FAR-11
viba_48504	IRN/20/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48516	IRN/2/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48508	IRN/23/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48532	IRN/8/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45686	IRN/991471/2020	cattle	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45677	IRN/994883/2020	cattle	94.8	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	93.0	0	A	ASIA	Iran-05	FAR-11
viba_13615	IRN/134/2010	cattle	92.2	0	A	ASIA	Iran-05	HER-10
viba_414	AFG/6/2007	bovine	92.1	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	91.8	0	A	ASIA	Iran-05	SIS-12
viba_10508	PAK/7/2008	water buffalo	91.8	0	A	ASIA	Iran-05	SIN-08
viba_34671	BAL/PAK/05/2011	cattle	91.6	0	A	ASIA	Iran-05	BAL-11
viba_403	TUR/1/2008	cattle	91.6	0	A	ASIA	Iran-05	ARD-07
viba_636	IRN/78/2009		91.5	0	A	ASIA	Iran-05	FAR-09
viba_319	BAR/6/2008	bovine	91.5	0	A	ASIA	Iran-05	BAR-08
viba_133	IRN/1/2005	cattle	91.3	0	A	ASIA	Iran-05	

Virus sample name:	PAK/29/2021
Sender reference:	PK-29
Location of origin:	Rawalpindi, Punjab
Country of origin:	Pakistan
Date of collection:	30/09/2021
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	17/02/2022
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	07/03/2022
Created:	13/03/2022
Last updated:	13/03/2022

VIBASys IDs: sample 50255, genome 50256, sequence viba_50257, sequencing info 50258

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50249	PAK/22/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50253	PAK/28/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50261	PAK/30/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_44782	PAK/73/2019	cattle	96.5	0	A	ASIA	Iran-05	FAR-11
viba_48504	IRN/20/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48516	IRN/2/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48508	IRN/23/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48532	IRN/8/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45686	IRN/991471/2020	cattle	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45677	IRN/994883/2020	cattle	94.8	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	93.0	0	A	ASIA	Iran-05	FAR-11
viba_13615	IRN/134/2010	cattle	92.2	0	A	ASIA	Iran-05	HER-10
viba_414	AFG/6/2007	bovine	92.1	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	91.8	0	A	ASIA	Iran-05	SIS-12
viba_10508	PAK/7/2008	water buffalo	91.8	0	A	ASIA	Iran-05	SIN-08
viba_34671	BAL/PAK/05/2011	cattle	91.6	0	A	ASIA	Iran-05	BAL-11
viba_403	TUR/1/2008	cattle	91.6	0	A	ASIA	Iran-05	ARD-07
viba_636	IRN/78/2009		91.5	0	A	ASIA	Iran-05	FAR-09
viba_319	BAR/6/2008	bovine	91.5	0	A	ASIA	Iran-05	BAR-08
viba_133	IRN/1/2005	cattle	91.3	0	A	ASIA	Iran-05	

Virus sample name:	PAK/30/2021
Sender reference:	PK-30
Location of origin:	Rawalpindi, Punjab
Country of origin:	Pakistan
Date of collection:	30/09/2021
Host species:	cattle
Serotype:	A
Topotype:	ASIA
Lineage:	Iran-05
Sublineage:	FAR-11
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	17/02/2022
Primers:	A-1C562F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	07/03/2022
Created:	13/03/2022
Last updated:	13/03/2022
VIBASys IDs: sample 50259, genome 50260, sequence viba_50261, sequencing info 50262	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50249	PAK/22/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50253	PAK/28/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_50257	PAK/29/2021	cattle	100.0	0	A	ASIA	Iran-05	FAR-11
viba_44782	PAK/73/2019	cattle	96.5	0	A	ASIA	Iran-05	FAR-11
viba_48504	IRN/20/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48516	IRN/2/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48508	IRN/23/2020	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_48532	IRN/8/2021	bovine	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45686	IRN/991471/2020	cattle	94.9	0	A	ASIA	Iran-05	FAR-11
viba_45677	IRN/994883/2020	cattle	94.8	0	A	ASIA	Iran-05	FAR-11

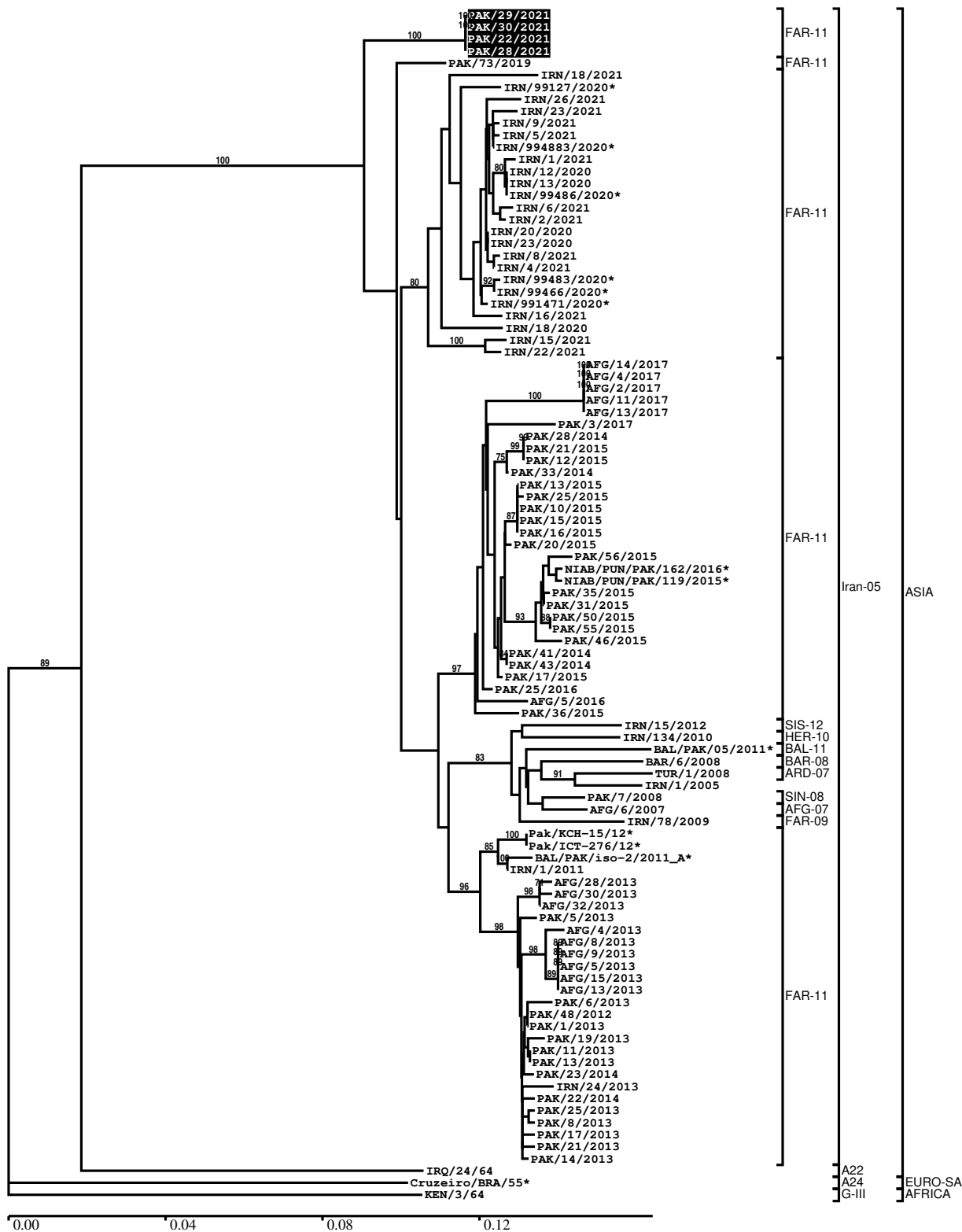
Most Closely Related Prototype Sequences

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	93.0	0	A	ASIA	Iran-05	FAR-11
viba_13615	IRN/134/2010	cattle	92.2	0	A	ASIA	Iran-05	HER-10
viba_414	AFG/6/2007	bovine	92.1	0	A	ASIA	Iran-05	AFG-07
viba_557	IRN/15/2012	bovine	91.8	0	A	ASIA	Iran-05	SIS-12
viba_10508	PAK/7/2008	water buffalo	91.8	0	A	ASIA	Iran-05	SIN-08
viba_34671	BAL/PAK/05/2011	cattle	91.6	0	A	ASIA	Iran-05	BAL-11
viba_403	TUR/1/2008	cattle	91.6	0	A	ASIA	Iran-05	ARD-07
viba_636	IRN/78/2009		91.5	0	A	ASIA	Iran-05	FAR-09
viba_319	BAR/6/2008	bovine	91.5	0	A	ASIA	Iran-05	BAR-08
viba_133	IRN/1/2005	cattle	91.3	0	A	ASIA	Iran-05	

Report on FMDV A in Pakistan in 2021

Batch: WRLFMD/2022/00001



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_A
Query sequence set:	WRLFMD/2022/00001-Pakistan-A (4 sequences)
Sequence database set:	allseqs_A (2309 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:	10
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/29/2021	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/30/2021	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/22/2021	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/28/2021	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/73/2019	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
IRN/18/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/99127/2020*	n/a	cattle	CVL-IVO	Iran	ASIA/Iran-05/FAR-11
IRN/26/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/23/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/9/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/5/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/994883/2020*	n/a	cattle	CVL-IVO	Iran	ASIA/Iran-05/FAR-11
IRN/1/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/12/2020	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/13/2020	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/99486/2020*	n/a	cattle	CVL-IVO	Iran	ASIA/Iran-05/FAR-11
IRN/6/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/2/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/20/2020	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/23/2020	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/8/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/4/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/99483/2020*	n/a	cattle	CVL-IVO	Iran	ASIA/Iran-05/FAR-11
IRN/99466/2020*	n/a	cattle	CVL-IVO	Iran	ASIA/Iran-05/FAR-11
IRN/991471/2020*	n/a	cattle	CVL-IVO	Iran	ASIA/Iran-05/FAR-11
IRN/16/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/18/2020	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/15/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
IRN/22/2021	n/a	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11
AFG/14/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/4/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/2/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/11/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/13/2017	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
PAK/3/2017	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/28/2014	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11

continued on next page

label	accession	host(s)	lab	country	taxonomic information
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/25/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/10/2015	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/16/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/20/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/56/2015	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
NIAB/PUN/PAK/162/2016*	MF140440	water buffalo	NIAB	Pakistan	ASIA/Iran-05/FAR-11
NIAB/PUN/PAK/119/2015*	MF374993	cattle	NIAB	Pakistan	ASIA/Iran-05/FAR-11
PAK/35/2015	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/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
PAK/17/2015	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/25/2016	n/a	water buffalo	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
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
BAL/PAK/05/2011*	KT832824	cattle	Univ Malakand	Pakistan	ASIA/Iran-05/BAL-11
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/7/2008	MN276047	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/SIN-08
AFG/6/2007	FJ755007	bovine	WRLFMD	Afghanistan	ASIA/Iran-05/AFG-07
IRN/78/2009	KY091291	n/a	WRLFMD	Iran	ASIA/Iran-05/FAR-09
Pak/KCH-15/12*	KU360079	cattle	PIADC	Pakistan	ASIA/Iran-05/FAR-11
Pak/ICT-276/12*	KU258637	bovine	PIADC	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/28/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/30/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/32/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
PAK/5/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
AFG/4/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/8/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/9/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/5/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/15/2013	n/a	cattle	WRLFMD	Afghanistan	ASIA/Iran-05/FAR-11
AFG/13/2013	n/a	cattle	WRLFMD	Afghanistan	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
PAK/1/2013	n/a	water buffalo	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/19/2013	n/a	water buffalo	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
IRN/24/2013	n/a	goat	WRLFMD	Iran	ASIA/Iran-05/FAR-11
PAK/22/2014	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/8/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/17/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/21/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-11
PAK/14/2013	n/a	cattle	WRLFMD	Pakistan	ASIA/Iran-05/FAR-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