

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

## Genotyping Report

FMDV serotype: O  
Country: Nepal  
Year: 2021  
Batch: WRLFMD/2023/000039A  
No. of sequences: 19  
Report date: 14th June 2023  
Report generated by: Nick Knowles  
Report checked by: Jemma Wadsworth



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Virus sample name:	NEP/59/2021a
Sender reference:	3 Np FMD; 25/2078/79
Location of origin:	Baitadi district, Sudurpashchim province
Country of origin:	Nepal
Date of collection:	19/08/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	e
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52996, genome 52997, sequence viba_52998, sequencing info 52999	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_48924	NEP/19/2021	water buffalo	99.4	0	O	ME-SA	Ind-2001	e
viba_48928	NEP/20/2021	bovine	99.4	0	O	ME-SA	Ind-2001	e
viba_48920	NEP/15/2021	bovine	99.4	0	O	ME-SA	Ind-2001	e
viba_48972	NEP/32/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48948	NEP/26/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_51856	BAN/DH/Ke-395/2020	cattle	99.2	0	O	ME-SA	Ind-2001	e
viba_48880	NEP/13/2020	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48872	NEP/11/2020	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48916	NEP/14/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48932	NEP/22/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e

### 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_30238	MUR/19/2016	cattle	95.9	0	O	ME-SA	Ind-2001	e
viba_293	BHU/3/2009	cattle	92.9	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	91.6	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	91.0	0	O	ME-SA	Ind-2001	a
viba_27877	SRL/2/97	bovine	90.5	0	O	ME-SA	Srl-97	
viba_397	UAE/4/2008	gazelle	90.1	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	89.8	0	O	ME-SA	PanAsia	
viba_9021	LAO/2/2006	cattle	89.4	0	O	ME-SA	PanAsia	
viba_650	IRN/8/2005	ovine	89.3	0	O	ME-SA	PanAsia-2	
viba_766	IRN/31/2009	cattle	89.1	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	NEP/59/2021b
Sender reference:	3 Np FMD; 25/2078/79
Location of origin:	Baitadi district, Sudurpashchim province
Country of origin:	Nepal
Date of collection:	19/08/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	e
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 53000, genome 53001, sequence viba_53002, sequencing info 53003	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_48924	NEP/19/2021	water buffalo	98.9	0	O	ME-SA	Ind-2001	e
viba_48928	NEP/20/2021	bovine	98.9	0	O	ME-SA	Ind-2001	e
viba_48920	NEP/15/2021	bovine	98.9	0	O	ME-SA	Ind-2001	e
viba_48972	NEP/32/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48948	NEP/26/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_51856	BAN/DH/Ke-395/2020	cattle	98.7	0	O	ME-SA	Ind-2001	e
viba_49004	NEP/43/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48880	NEP/13/2020	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48872	NEP/11/2020	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48916	NEP/14/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e

### 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_30238	MUR/19/2016	cattle	95.4	0	O	ME-SA	Ind-2001	e
viba_293	BHU/3/2009	cattle	92.4	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	91.2	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	90.7	0	O	ME-SA	Ind-2001	a
viba_27877	SRL/2/97	bovine	90.0	0	O	ME-SA	Srl-97	
viba_397	UAE/4/2008	gazelle	89.7	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	89.0	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	88.8	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	88.8	0	O	ME-SA	PanAsia-2	
viba_9021	LAO/2/2006	cattle	88.7	0	O	ME-SA	PanAsia	

Virus sample name:	NEP/58/2021
Sender reference:	2 Np FMD; 22/2078/79
Location of origin:	Baitadi district, Sudurpashchim province
Country of origin:	Nepal
Date of collection:	19/08/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	e
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52907, genome 52908, sequence viba_52909, sequencing info 52910	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_48924	NEP/19/2021	water buffalo	98.9	0	O	ME-SA	Ind-2001	e
viba_48928	NEP/20/2021	bovine	98.9	0	O	ME-SA	Ind-2001	e
viba_48920	NEP/15/2021	bovine	98.9	0	O	ME-SA	Ind-2001	e
viba_48972	NEP/32/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48948	NEP/26/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_51856	BAN/DH/Ke-395/2020	cattle	98.7	0	O	ME-SA	Ind-2001	e
viba_49004	NEP/43/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48880	NEP/13/2020	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48872	NEP/11/2020	bovine	98.7	0	O	ME-SA	Ind-2001	e
viba_48916	NEP/14/2021	bovine	98.7	0	O	ME-SA	Ind-2001	e

### 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_30238	MUR/19/2016	cattle	95.4	0	O	ME-SA	Ind-2001	e
viba_293	BHU/3/2009	cattle	92.4	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	91.2	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	90.7	0	O	ME-SA	Ind-2001	a
viba_27877	SRL/2/97	bovine	90.0	0	O	ME-SA	Srl-97	
viba_397	UAE/4/2008	gazelle	89.7	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	89.0	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	88.8	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	88.8	0	O	ME-SA	PanAsia-2	
viba_9021	LAO/2/2006	cattle	88.7	0	O	ME-SA	PanAsia	

Virus sample name:	NEP/60/2021
Sender reference:	4 Np FMD; 32/2078/79
Location of origin:	Nawalparasi district, Gandaki province
Country of origin:	Nepal
Date of collection:	06/09/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	e
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52911, genome 52912, sequence viba_52913, sequencing info 52914	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_48924	NEP/19/2021	water buffalo	99.4	0	O	ME-SA	Ind-2001	e
viba_48928	NEP/20/2021	bovine	99.4	0	O	ME-SA	Ind-2001	e
viba_48920	NEP/15/2021	bovine	99.4	0	O	ME-SA	Ind-2001	e
viba_48972	NEP/32/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48948	NEP/26/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_51856	BAN/DH/Ke-395/2020	cattle	99.2	0	O	ME-SA	Ind-2001	e
viba_48880	NEP/13/2020	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48872	NEP/11/2020	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48916	NEP/14/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e
viba_48932	NEP/22/2021	bovine	99.2	0	O	ME-SA	Ind-2001	e

### 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_30238	MUR/19/2016	cattle	95.9	0	O	ME-SA	Ind-2001	e
viba_293	BHU/3/2009	cattle	92.9	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	91.6	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	91.0	0	O	ME-SA	Ind-2001	a
viba_27877	SRL/2/97	bovine	90.5	0	O	ME-SA	Srl-97	
viba_397	UAE/4/2008	gazelle	90.1	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	89.8	0	O	ME-SA	PanAsia	
viba_9021	LAO/2/2006	cattle	89.4	0	O	ME-SA	PanAsia	
viba_650	IRN/8/2005	ovine	89.3	0	O	ME-SA	PanAsia-2	
viba_766	IRN/31/2009	cattle	89.1	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	NEP/64/2021
Sender reference:	8 Np FMD; 41/2078/79
Location of origin:	Syangja district, Gandaki province
Country of origin:	Nepal
Date of collection:	13/09/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52915, genome 52916, sequence viba_52917, sequencing info 52918	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.1	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.3	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	91.5	0	O	ME-SA	PanAsia-2	FAR-09
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_491	TUR/257/2008		91.0	0	O	ME-SA	PanAsia-2	TER-08
viba_860	IRN/6/2015	cattle	90.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	90.7	0	O	ME-SA	Srl-97	
viba_9021	LAO/2/2006	cattle	90.4	0	O	ME-SA	PanAsia	

Virus sample name:	NEP/65/2021
Sender reference:	9 Np FMD; 45/2078/79
Location of origin:	Syangja district, Gandaki province
Country of origin:	Nepal
Date of collection:	13/09/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52919, genome 52920, sequence viba_52921, sequencing info 52922	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.1	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.3	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	91.5	0	O	ME-SA	PanAsia-2	FAR-09
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_491	TUR/257/2008		91.0	0	O	ME-SA	PanAsia-2	TER-08
viba_860	IRN/6/2015	cattle	90.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	90.7	0	O	ME-SA	Srl-97	
viba_9021	LAO/2/2006	cattle	90.4	0	O	ME-SA	PanAsia	

Virus sample name:	NEP/68/2021
Sender reference:	12 Np FMD; 54/2078/79
Location of origin:	Kavrepalanchok district, Bagmati province
Country of origin:	Nepal
Date of collection:	05/10/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52923, genome 52924, sequence viba_52925, sequencing info 52926	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.7	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.7	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.7	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.7	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.6	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_666	IRN/18/2010	cattle	91.8	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	91.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_27877	SRL/2/97	bovine	91.3	0	O	ME-SA	Srl-97	
viba_650	IRN/8/2005	ovine	91.3	0	O	ME-SA	PanAsia-2	
viba_860	IRN/6/2015	cattle	90.7	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.7	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.5	0	O	ME-SA	PanAsia-2	PUN-10



Virus sample name:	NEP/69/2021
Sender reference:	13 Np FMD; 73/2078/79
Location of origin:	Kaski district, Gandaki province
Country of origin:	Nepal
Date of collection:	28/10/2021
Host species:	
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52927, genome 52928, sequence viba_52929, sequencing info 52930	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.5	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.8	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		92.3	0	O	ME-SA	PanAsia-2	ANT-10
viba_650	IRN/8/2005	ovine	91.8	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	91.8	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	91.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_505	TUR/264/2009		91.2	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	91.2	0	O	ME-SA	Srl-97	
viba_491	TUR/257/2008		91.2	0	O	ME-SA	PanAsia-2	TER-08
viba_860	IRN/6/2015	cattle	91.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_354	PAK/16/2010	cattle	91.0	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/70/2021
Sender reference:	14 Np FMD; 80/2078/79
Location of origin:	Kathmandu district, Bagmati province
Country of origin:	Nepal
Date of collection:	29/10/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52931, genome 52932, sequence viba_52933, sequencing info 52934	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.5	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.8	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.9	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_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	91.5	0	O	ME-SA	PanAsia-2	
viba_27877	SRL/2/97	bovine	91.2	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	90.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.7	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/71/2021
Sender reference:	15 Np FMD; 81/2078/79
Location of origin:	Kathmandu district, Bagmati province
Country of origin:	Nepal
Date of collection:	29/10/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52935, genome 52936, sequence viba_52937, sequencing info 52938	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.5	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.8	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.9	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_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	91.5	0	O	ME-SA	PanAsia-2	
viba_27877	SRL/2/97	bovine	91.2	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	90.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.7	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/72/2021
Sender reference:	16 Np FMD; 83/2078/79
Location of origin:	Bhaktapur district, Bagmati province
Country of origin:	Nepal
Date of collection:	01/11/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	11/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52939, genome 52940, sequence viba_52941, sequencing info 52942	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.5	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.8	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.9	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_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	91.5	0	O	ME-SA	PanAsia-2	
viba_27877	SRL/2/97	bovine	91.2	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	90.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.7	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/73/2021
Sender reference:	17 Np FMD; 84/2078/79
Location of origin:	Bhaktapur district, Bagmati province
Country of origin:	Nepal
Date of collection:	01/11/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52943, genome 52944, sequence viba_52945, sequencing info 52946	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.7	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.7	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.7	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.7	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.7	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.9	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		92.1	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	91.8	0	O	ME-SA	PanAsia-2	FAR-09
viba_666	IRN/18/2010	cattle	91.8	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	91.6	0	O	ME-SA	PanAsia-2	
viba_27877	SRL/2/97	bovine	91.3	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	91.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		91.0	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.8	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/75/2021
Sender reference:	21 Np FMD; 110/2078/79
Location of origin:	Parbat district, Gandaki province
Country of origin:	Nepal
Date of collection:	16/11/2021
Host species:	water buffalo
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	13/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52947, genome 52948, sequence viba_52949, sequencing info 52950	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.4	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.6	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		92.1	0	O	ME-SA	PanAsia-2	ANT-10
viba_650	IRN/8/2005	ovine	91.6	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	91.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	91.0	0	O	ME-SA	Srl-97	
viba_491	TUR/257/2008		91.0	0	O	ME-SA	PanAsia-2	TER-08
viba_860	IRN/6/2015	cattle	90.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_354	PAK/16/2010	cattle	90.8	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/76/2021
Sender reference:	22 Np FMD; 111/2078/79
Location of origin:	Parbat district, Gandaki province
Country of origin:	Nepal
Date of collection:	16/11/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK2
Harvest date of material:	16/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52951, genome 52952, sequence viba_52953, sequencing info 52954	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.4	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.6	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		92.1	0	O	ME-SA	PanAsia-2	ANT-10
viba_650	IRN/8/2005	ovine	91.6	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	91.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_505	TUR/264/2009		91.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	91.0	0	O	ME-SA	Srl-97	
viba_491	TUR/257/2008		91.0	0	O	ME-SA	PanAsia-2	TER-08
viba_860	IRN/6/2015	cattle	90.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_354	PAK/16/2010	cattle	90.8	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/81/2021
Sender reference:	25 Np FMD; 133/2078/79
Location of origin:	Kavrepalanchok district, Bagmati province
Country of origin:	Nepal
Date of collection:	03/12/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52955, genome 52956, sequence viba_52957, sequencing info 52958	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.5	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.5	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.5	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.8	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		92.3	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	91.9	0	O	ME-SA	PanAsia-2	FAR-09
viba_666	IRN/18/2010	cattle	91.9	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	91.8	0	O	ME-SA	PanAsia-2	
viba_860	IRN/6/2015	cattle	91.2	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		91.2	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	91.2	0	O	ME-SA	Srl-97	
viba_491	TUR/257/2008		91.2	0	O	ME-SA	PanAsia-2	TER-08
viba_9021	LAO/2/2006	cattle	90.8	0	O	ME-SA	PanAsia	



Virus sample name:	NEP/82/2021
Sender reference:	26 Np FMD; 138/2078/79
Location of origin:	Siraha district, Madhesh province
Country of origin:	Nepal
Date of collection:	03/12/2021
Host species:	water buffalo
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	1
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52959, genome 52960, sequence viba_52961, sequencing info 52962	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.4	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.4	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.4	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.9	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	91.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_666	IRN/18/2010	cattle	91.5	0	O	ME-SA	PanAsia-2	BAL-09
viba_27877	SRL/2/97	bovine	91.3	0	O	ME-SA	Srl-97	
viba_650	IRN/8/2005	ovine	91.3	0	O	ME-SA	PanAsia-2	
viba_860	IRN/6/2015	cattle	90.8	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		90.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.7	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.5	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/83/2021
Sender reference:	27 Np FMD; 147/2078/79
Location of origin:	Sindhuli district, Bagmati province
Country of origin:	Nepal
Date of collection:	04/12/2021
Host species:	water buffalo
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52963, genome 52964, sequence viba_52965, sequencing info 52966	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.1	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.9	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	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_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_27877	SRL/2/97	bovine	91.3	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	91.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_650	IRN/8/2005	ovine	91.0	0	O	ME-SA	PanAsia-2	
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.7	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/84/2021
Sender reference:	28 Np FMD; 150/2078/79
Location of origin:	Dhanusha district, Madhesh province
Country of origin:	Nepal
Date of collection:	05/12/2021
Host species:	
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52967, genome 52968, sequence viba_52969, sequencing info 52970	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.1	0	O	ME-SA	SA-2018	

### 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_47579	SRL/1/2019	cattle	94.9	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	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_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_27877	SRL/2/97	bovine	91.3	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	91.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_650	IRN/8/2005	ovine	91.0	0	O	ME-SA	PanAsia-2	
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.7	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NEP/85/2021
Sender reference:	29 Np FMD; 151/2078/79
Location of origin:	Dhanusha district, Madhesh province
Country of origin:	Nepal
Date of collection:	05/12/2021
Host species:	
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	12/05/2023
Primers:	O-1C244F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	05/06/2023
Created:	13/06/2023
Last updated:	13/06/2023
VIBASys IDs: sample 52971, genome 52972, sequence viba_52973, sequencing info 52974	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51896	BAN/MY/My-480/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51639	OMN/22Z2088/2021_136	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51619	OMN/22Z2065/2021_107	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51635	OMN/22Z2087/2021_135	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51888	BAN/MY/My-469/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51884	BAN/MY/My-466/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51627	OMN/22Z2085/2021_133	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51631	OMN/22Z2086/2021_134	sheep	99.1	0	O	ME-SA	SA-2018	
viba_51892	BAN/MY/My-478/2021	cattle	99.1	0	O	ME-SA	SA-2018	
viba_51623	OMN/22Z2084/2021_132	sheep	99.1	0	O	ME-SA	SA-2018	

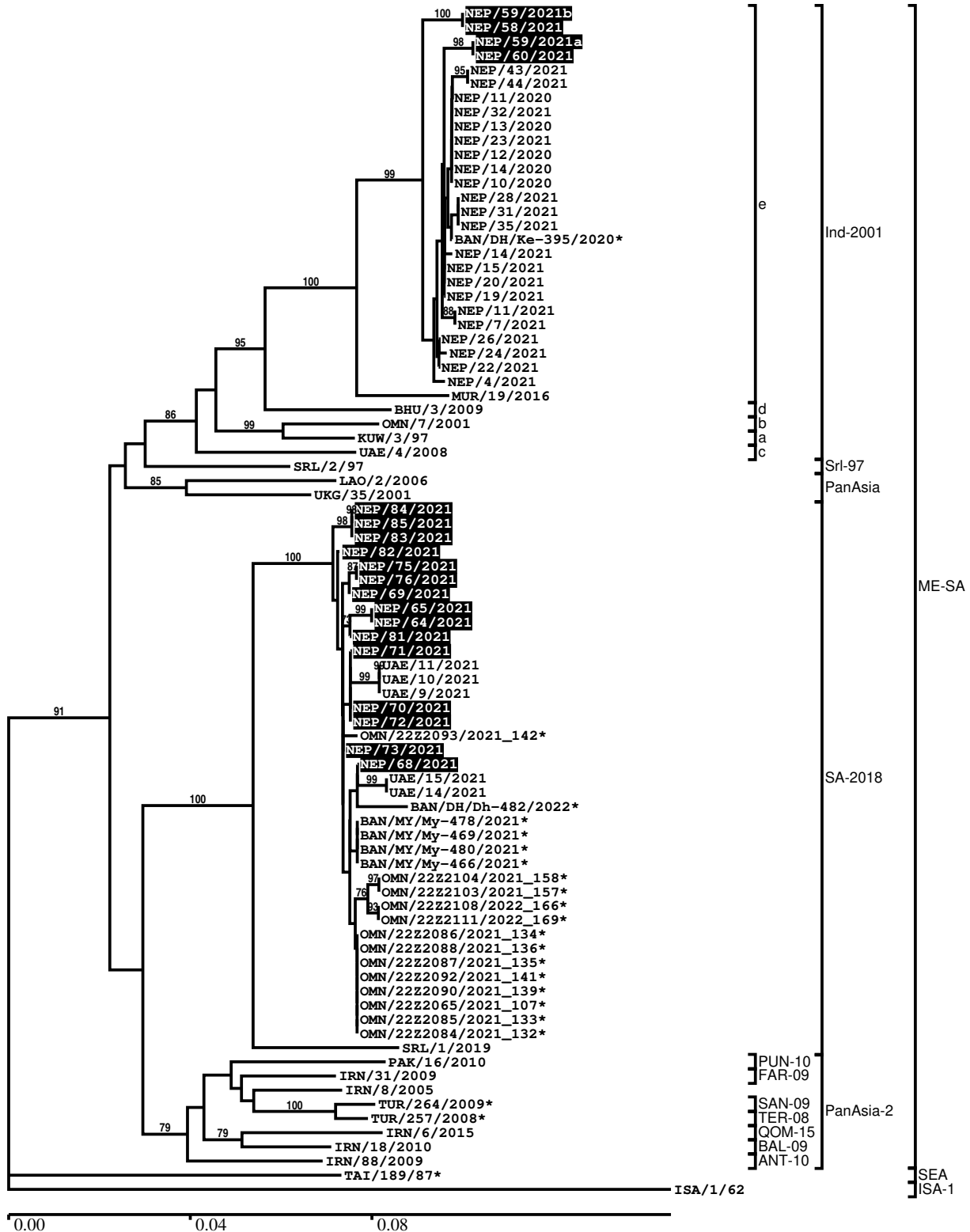
### Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_47579	SRL/1/2019	cattle	94.9	0	O	ME-SA	SA-2018	
viba_719	IRN/88/2009		91.8	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_666	IRN/18/2010	cattle	91.6	0	O	ME-SA	PanAsia-2	BAL-09
viba_27877	SRL/2/97	bovine	91.3	0	O	ME-SA	Srl-97	
viba_860	IRN/6/2015	cattle	91.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_650	IRN/8/2005	ovine	91.0	0	O	ME-SA	PanAsia-2	
viba_505	TUR/264/2009		90.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_491	TUR/257/2008		90.8	0	O	ME-SA	PanAsia-2	TER-08
viba_354	PAK/16/2010	cattle	90.7	0	O	ME-SA	PanAsia-2	PUN-10

Report on FMDV O in Nepal in 2021

Batch: WRLFMD/2023/000039A



\*, not a WRLFMD Reference Number

## Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLFMD/2023/000039A-Nepal-O (19 sequences)
Sequence database set:	allseqs_O (5882 sequences)
Prototype sequence set:	!prototypes_O (58 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:	17
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
NEP/59/2021b	n/a	cattle	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/58/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/59/2021a	n/a	cattle	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/60/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/43/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/44/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/11/2020	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/32/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/13/2020	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/23/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/12/2020	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/14/2020	n/a	water buffalo	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/10/2020	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/28/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/31/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/35/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
BAN/DH/Ke-395/2020*	OP320439	cattle	UNIV-DHAKA	Bangladesh	ME-SA/Ind-2001/e
NEP/14/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/15/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/20/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/19/2021	n/a	water buffalo	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/11/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/7/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/26/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/24/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/22/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
NEP/4/2021	n/a	bovine	WRLFMD	Nepal	ME-SA/Ind-2001/e
MUR/19/2016	MG972510	cattle	WRLFMD	Mauritius	ME-SA/Ind-2001/e
BHU/3/2009	KM921814	cattle	WRLFMD	Bhutan	ME-SA/Ind-2001/d
OMN/7/2001	DQ164941	bovine	WRLFMD	Oman	ME-SA/Ind-2001/b
KUW/3/97	DQ164904	bovine	WRLFMD	Kuwait	ME-SA/Ind-2001/a
UAE/4/2008	KM921876	gazelle	WRLFMD	United Arab Emirates	ME-SA/Ind-2001/c
SRL/2/97	AJ303531	bovine	WRLFMD	Sri Lanka	ME-SA/Srl-97
LAO/2/2006	EU667451	cattle	WRLFMD	Laos	ME-SA/PanAsia

*continued on next page*

label	accession	host(s)	lab	country	taxonomic information
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
NEP/84/2021	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
NEP/85/2021	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
NEP/83/2021	n/a	water buffalo	WRLFMD	Nepal	ME-SA/SA-2018
NEP/82/2021	n/a	water buffalo	WRLFMD	Nepal	ME-SA/SA-2018
NEP/75/2021	n/a	water buffalo	WRLFMD	Nepal	ME-SA/SA-2018
NEP/76/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/69/2021	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
NEP/65/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/64/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/81/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/71/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
UAE/11/2021	n/a	goat	WRLFMD	United Arab Emirates	ME-SA/SA-2018
UAE/10/2021	n/a	goat	WRLFMD	United Arab Emirates	ME-SA/SA-2018
UAE/9/2021	n/a	goat	WRLFMD	United Arab Emirates	ME-SA/SA-2018
NEP/70/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/72/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
OMN/22Z2093/2021_142*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
NEP/73/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/68/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
UAE/15/2021	n/a	sheep	WRLFMD	United Arab Emirates	ME-SA/SA-2018
UAE/14/2021	n/a	sheep	WRLFMD	United Arab Emirates	ME-SA/SA-2018
BAN/DH/Dh-482/2022*	OP913189	cattle	UNIV-DHAKA	Bangladesh	ME-SA/SA-2018
BAN/MY/My-478/2021*	OP320457	cattle	UNIV-DHAKA	Bangladesh	ME-SA/SA-2018
BAN/MY/My-469/2021*	OP320456	cattle	UNIV-DHAKA	Bangladesh	ME-SA/SA-2018
BAN/MY/My-480/2021*	OP320458	cattle	UNIV-DHAKA	Bangladesh	ME-SA/SA-2018
BAN/MY/My-466/2021*	OP320455	cattle	UNIV-DHAKA	Bangladesh	ME-SA/SA-2018
OMN/22Z2104/2021_158*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2103/2021_157*	n/a	sheep	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2108/2022_166*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2111/2022_169*	n/a	sheep	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2086/2021_134*	n/a	sheep	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2088/2021_136*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2087/2021_135*	n/a	sheep	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2092/2021_141*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2090/2021_139*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2065/2021_107*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2085/2021_133*	n/a	sheep	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2084/2021_132*	n/a	sheep	ANSES	Oman	ME-SA/SA-2018
SRL/1/2019	n/a	cattle	WRLFMD	Sri Lanka	ME-SA/SA-2018
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/8/2005	KY091281	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
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
IRN/6/2015	MN276044	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/18/2010	KY091283	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/BAL-09
IRN/88/2009	KY091282	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
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