

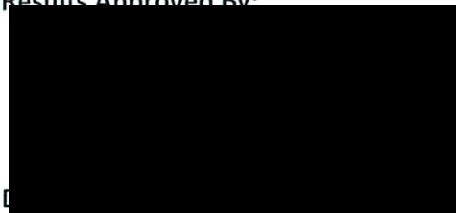


FMD Genotyping Report

Lab Reference WRL batch Number: WRLMEG/2024/000013
Sender Details: Sequence submitted to GenBank
Accession number OR991332

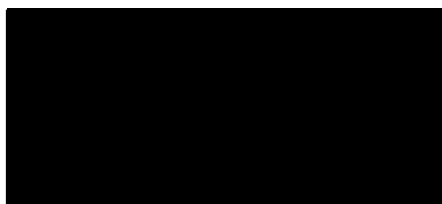
Date Received: n/a
Country of Origin*: Iran

Results Approved By:



22/11/2024

Official Stamp:



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

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

Genotyping Report

FMDV serotype:	O
Country:	Iran
Year:	2023
Batch:	WRLMEG/2024/000013
No. of sequences:	1
Report date:	21st November 2024
Report generated by:	Nick Knowles
Report checked by:	Don King



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

email: reporting@pirbright.ac.uk

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Virus sample name:	Otarod_2008/IRN/2023
Sender reference:	2008
Location of origin:	n/a
Country of origin:	Iran
Date of collection:	18/10/2023
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	SA-2018
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:	11/11/2024
Last updated:	11/11/2024
VIBASys IDs: sample 55641, genome 55642, sequence viba_55643, sequencing info 55644	

Most Closely Related Sequences

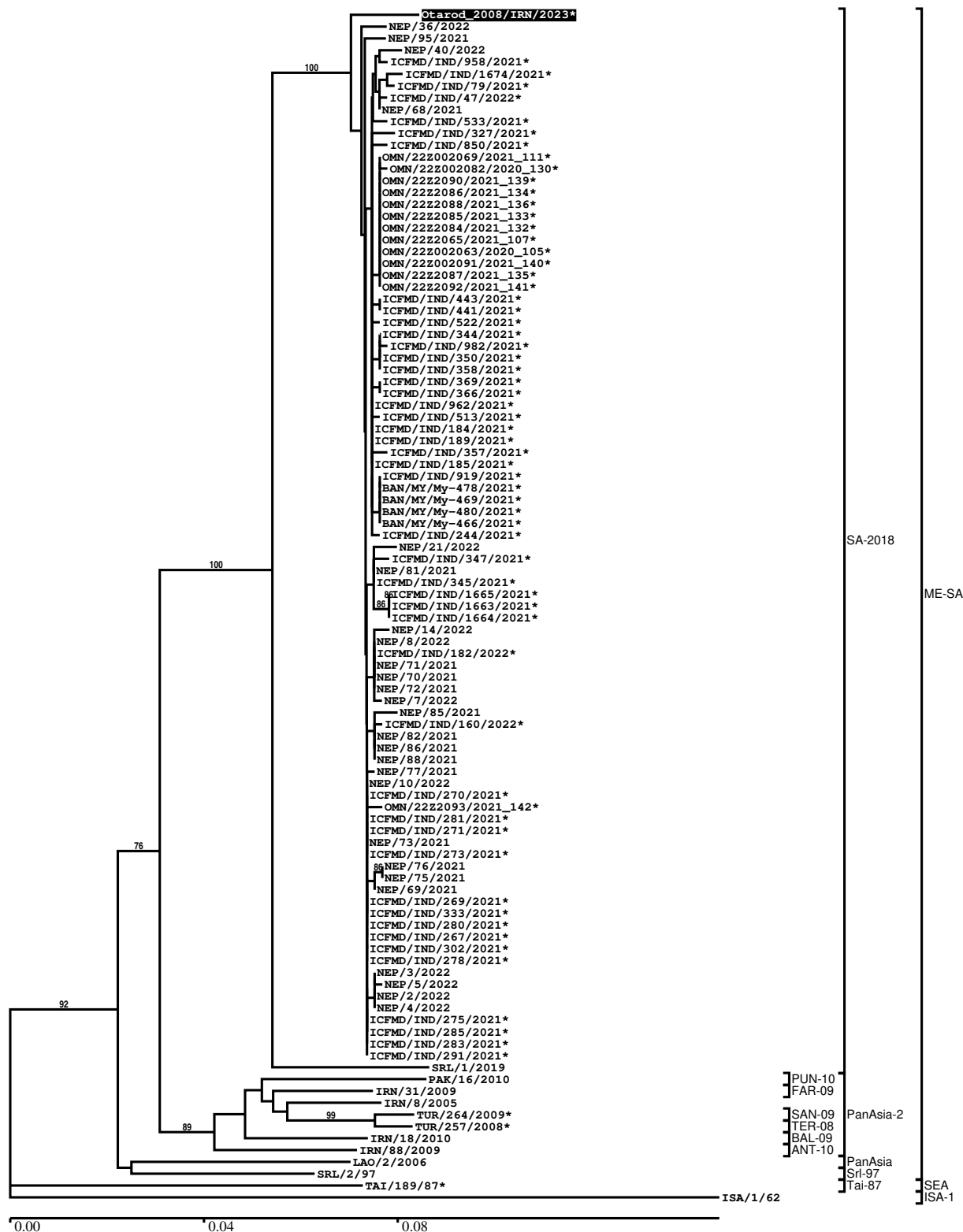
sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_53728	ICFMD/IND/270/2021	goat	98.3	0	O	ME-SA	SA-2018	
viba_53740	ICFMD/IND/278/2021	sheep	98.3	0	O	ME-SA	SA-2018	
viba_52925	NEP/68/2021	cattle	98.3	0	O	ME-SA	SA-2018	
viba_53892	ICFMD/IND/302/2021	sheep	98.3	0	O	ME-SA	SA-2018	
viba_53074	NEP/10/2022	cattle	98.3	0	O	ME-SA	SA-2018	
viba_52945	NEP/73/2021	cattle	98.3	0	O	ME-SA	SA-2018	
viba_53712	ICFMD/IND/271/2021	goat	98.3	0	O	ME-SA	SA-2018	
viba_53736	ICFMD/IND/275/2021	goat	98.3	0	O	ME-SA	SA-2018	
viba_53724	ICFMD/IND/269/2021	goat	98.3	0	O	ME-SA	SA-2018	
viba_53752	ICFMD/IND/285/2021	sheep	98.3	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	94.2	0	O	ME-SA	SA-2018	
viba_766	IRN/31/2009	cattle	91.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_719	IRN/88/2009		90.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_650	IRN/8/2005	ovine	90.4	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	90.2	0	O	ME-SA	PanAsia-2	BAL-09
viba_505	TUR/264/2009		90.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_27877	SRL/2/97	bovine	90.0	0	O	ME-SA	Srl-97	
viba_491	TUR/257/2008		90.0	0	O	ME-SA	PanAsia-2	TER-08
viba_9021	LAO/2/2006	cattle	89.9	0	O	ME-SA	PanAsia	
viba_354	PAK/16/2010	cattle	89.9	0	O	ME-SA	PanAsia-2	PUN-10

Batch: WRLMEG/2024/000013



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLMEG/2024/000013-Iran-O (1 sequences)
Sequence database set:	allseqs_O (6273 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:	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
Otarod_2008/IRN/2023*	OR991332	cattle	UNIV-TEHRAN	Iran	ME-SA/SA-2018
NEP/36/2022	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
NEP/95/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/40/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/958/2021*	OQ847042	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/1674/2021*	OQ847050	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/79/2021*	OQ847005	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/47/2022*	OQ847051	n/a	ICAR-DFMD	India	ME-SA/SA-2018
NEP/68/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/533/2021*	OQ847030	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/327/2021*	OQ847021	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/850/2021*	OQ846965	n/a	ICAR-DFMD	India	ME-SA/SA-2018
OMN/22Z002069/2021_111*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z002082/2020_130*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z2090/2021_139*	n/a	cattle	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/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
OMN/22Z2065/2021_107*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z002063/2020_105*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
OMN/22Z002091/2021_140*	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
ICFMD/IND/443/2021*	OQ847027	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/441/2021*	OQ846962	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/522/2021*	OQ846963	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/344/2021*	OQ847023	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/982/2021*	OQ847044	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/350/2021*	OQ846961	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/358/2021*	OQ847025	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/369/2021*	OQ847026	n/a	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/366/2021*	OQ846959	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/962/2021*	OQ847043	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/513/2021*	OQ847029	cattle	ICAR-DFMD	India	ME-SA/SA-2018

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label	accession	host(s)	lab	country	taxonomic information
ICFMD/IND/184/2021*	OQ846960	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/189/2021*	OQ847007	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/357/2021*	OQ846964	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/185/2021*	OQ847006	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/919/2021*	OQ847041	cattle	ICAR-DFMD	India	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
ICFMD/IND/244/2021*	OQ847010	n/a	ICAR-DFMD	India	ME-SA/SA-2018
NEP/21/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/347/2021*	OQ847024	cattle	ICAR-DFMD	India	ME-SA/SA-2018
NEP/81/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/345/2021*	OQ846954	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/1665/2021*	OQ847049	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/1663/2021*	OQ847047	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/1664/2021*	OQ847048	cattle	ICAR-DFMD	India	ME-SA/SA-2018
NEP/14/2022	n/a	goat	WRLFMD	Nepal	ME-SA/SA-2018
NEP/8/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/182/2022*	OQ847053	cattle	ICAR-DFMD	India	ME-SA/SA-2018
NEP/71/2021	n/a	cattle	WRLFMD	Nepal	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
NEP/7/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/85/2021	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/160/2022*	OQ847052	cattle	ICAR-DFMD	India	ME-SA/SA-2018
NEP/82/2021	n/a	water buffalo	WRLFMD	Nepal	ME-SA/SA-2018
NEP/86/2021	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
NEP/88/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/77/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/10/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/270/2021*	OQ847013	goat	ICAR-DFMD	India	ME-SA/SA-2018
OMN/22Z2093/2021_142*	n/a	cattle	ANSES	Oman	ME-SA/SA-2018
ICFMD/IND/281/2021*	OQ847017	sheep	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/271/2021*	OQ846958	goat	ICAR-DFMD	India	ME-SA/SA-2018
NEP/73/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/273/2021*	OQ847014	goat	ICAR-DFMD	India	ME-SA/SA-2018
NEP/76/2021	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/75/2021	n/a	water buffalo	WRLFMD	Nepal	ME-SA/SA-2018
NEP/69/2021	n/a	n/a	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/269/2021*	OQ847012	goat	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/333/2021*	OQ847022	cattle	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/280/2021*	OQ846957	sheep	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/267/2021*	OQ847011	sheep	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/302/2021*	OQ846956	sheep	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/278/2021*	OQ847016	sheep	ICAR-DFMD	India	ME-SA/SA-2018
NEP/3/2022	n/a	goat	WRLFMD	Nepal	ME-SA/SA-2018
NEP/5/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/2/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
NEP/4/2022	n/a	cattle	WRLFMD	Nepal	ME-SA/SA-2018
ICFMD/IND/275/2021*	OQ847015	goat	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/285/2021*	OQ847019	sheep	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/283/2021*	OQ847018	goat	ICAR-DFMD	India	ME-SA/SA-2018
ICFMD/IND/291/2021*	OQ846955	goat	ICAR-DFMD	India	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	Turkiye	ME-SA/PanAsia-2/SAN-09
TUR/257/2008*	n/a	n/a	FMDI-Ankara	Turkiye	ME-SA/PanAsia-2/TER-08
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
LAO/2/2006	EU667451	cattle	WRLFMD	Laos	ME-SA/PanAsia

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label	accession	host(s)	lab	country	taxonomic information
SRL/2/97	AJ303531	bovine	WRLFMD	Sri Lanka	ME-SA/Srl-97
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA/Tai-87
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

*, not a WRLFMD Reference Number

n/a, not available