

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

## Genotyping Report

FMDV serotype: O  
Country: Palestinian AT  
Year: 2023  
Batch: WRLMEG/2023/00027  
No. of sequences: 1  
Report date: 15th August 2023  
Report generated by: Nick Knowles  
Report checked by: Don King



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

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Virus sample name:	490345/PAT/2023
Sender reference:	490345_Yatta_Aug_23_Epi_O_primers_VP1
Location of origin:	Yatta, Hebron, West Bank
Country of origin:	Palestinian AT
Date of collection:	08/2023
Host species:	sheep
Serotype:	O
Topotype:	ME-SA
Lineage:	PanAsia-2
Sublineage:	ANT-10
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	epi
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	15/08/2023
Last updated:	15/08/2023
VIBASys IDs: sample 53394, genome 53395, sequence viba_53396, sequencing info 53397	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_52557	475955/PAT/2023		98.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_52385	471883_PA-2004/PAT/2022	sheep	98.7	0	O	ME-SA	PanAsia-2	ANT-10
viba_50739	PAT/2/2022	sheep	97.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_50735	PAT/1/2022	sheep	97.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_50424	446186/ISR/2022	cattle	97.9	0	O	ME-SA	PanAsia-2	ANT-10
viba_50014	JOR/7/2021	cattle	97.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_50711	PAT/5/2021	goat	97.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_50006	JOR/1/2021	cattle	97.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_50658	ISR/1/2022	cattle	97.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_50018	JOR/10/2021	sheep	97.8	0	O	ME-SA	PanAsia-2	ANT-10

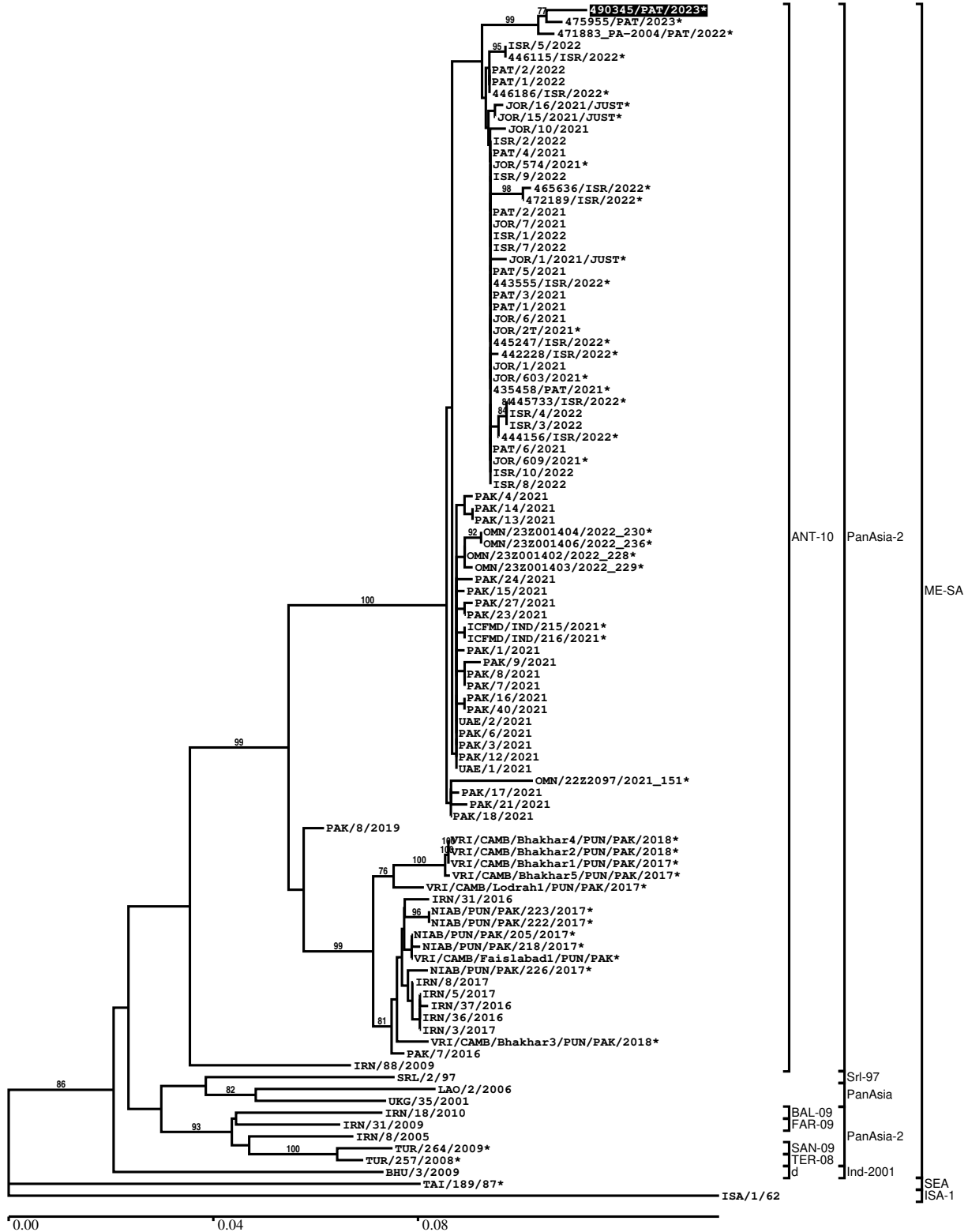
### Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_719	IRN/88/2009		90.5	0	O	ME-SA	PanAsia-2	ANT-10
viba_666	IRN/18/2010	cattle	88.5	0	O	ME-SA	PanAsia-2	BAL-09
viba_766	IRN/31/2009	cattle	88.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_27877	SRL/2/97	bovine	88.0	0	O	ME-SA	Srl-97	
viba_9021	LAO/2/2006	cattle	88.0	0	O	ME-SA	PanAsia	
viba_285	UKG/35/2001	porcine	88.0	0	O	ME-SA	PanAsia	
viba_650	IRN/8/2005	ovine	87.8	0	O	ME-SA	PanAsia-2	
viba_293	BHU/3/2009	cattle	87.7	0	O	ME-SA	Ind-2001	d
viba_491	TUR/257/2008		87.7	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		87.4	0	O	ME-SA	PanAsia-2	SAN-09

Report on FMDV O in Palestinian AT in 2023

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\*, not a WRLFMD Reference Number

## Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLMEG/2023/00027-Palestinian AT-O (1 sequences)
Sequence database set:	allseqs_O (5967 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
490345/PAT/2023*	n/a	sheep	KVI	Palestinian AT	ME-SA/PanAsia-2/ANT-10
475955/PAT/2023*	n/a	n/a	KVI	Palestinian AT	ME-SA/PanAsia-2/ANT-10
471883_PA-2004/PAT/2022*	n/a	sheep	KVI	Palestinian AT	ME-SA/PanAsia-2/ANT-10
ISR/5/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
446115/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
PAT/2/2022	n/a	sheep	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
PAT/1/2022	n/a	sheep	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
446186/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
JOR/16/2021/JUST*	n/a	sheep	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
JOR/15/2021/JUST*	n/a	sheep	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
JOR/10/2021	n/a	sheep	WRLFMD	Jordan	ME-SA/PanAsia-2/ANT-10
ISR/2/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
PAT/4/2021	n/a	sheep	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
JOR/574/2021*	n/a	cattle	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
ISR/9/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
465636/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
472189/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
PAT/2/2021	n/a	cattle	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
JOR/7/2021	n/a	cattle	WRLFMD	Jordan	ME-SA/PanAsia-2/ANT-10

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label	accession	host(s)	lab	country	taxonomic information
ISR/1/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
ISR/7/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
JOR/1/2021/JUST*	n/a	cattle	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
PAT/5/2021	n/a	goat	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
443555/ISR/2022*	n/a	sheep	KVI	Israel	ME-SA/PanAsia-2/ANT-10
PAT/3/2021	n/a	sheep	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
PAT/1/2021	n/a	cattle	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
JOR/6/2021	n/a	cattle	WRLFMD	Jordan	ME-SA/PanAsia-2/ANT-10
JOR/2T/2021*	n/a	sheep	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
445247/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
442228/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
JOR/1/2021	n/a	cattle	WRLFMD	Jordan	ME-SA/PanAsia-2/ANT-10
JOR/603/2021*	n/a	cattle	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
435458/PAT/2021*	n/a	sheep	KVI	Palestinian AT	ME-SA/PanAsia-2/ANT-10
445733/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
ISR/4/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
ISR/3/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
444156/ISR/2022*	n/a	cattle	KVI	Israel	ME-SA/PanAsia-2/ANT-10
PAT/6/2021	n/a	goat	WRLFMD	Palestinian AT	ME-SA/PanAsia-2/ANT-10
JOR/609/2021*	n/a	cattle	JUST	Jordan	ME-SA/PanAsia-2/ANT-10
ISR/10/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
ISR/8/2022	n/a	cattle	WRLFMD	Israel	ME-SA/PanAsia-2/ANT-10
PAK/4/2021	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/14/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/13/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
OMN/23Z001404/2022_230*	n/a	cattle	ANSES	Oman	ME-SA/PanAsia-2/ANT-10
OMN/23Z001406/2022_236*	n/a	cattle	ANSES	Oman	ME-SA/PanAsia-2/ANT-10
OMN/23Z001402/2022_228*	n/a	cattle	ANSES	Oman	ME-SA/PanAsia-2/ANT-10
OMN/23Z001403/2022_229*	n/a	cattle	ANSES	Oman	ME-SA/PanAsia-2/ANT-10
PAK/24/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/15/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/27/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/23/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
ICFMD/IND/215/2021*	n/a	n/a	DFMD	India	ME-SA/PanAsia-2/ANT-10
ICFMD/IND/216/2021*	n/a	n/a	DFMD	India	ME-SA/PanAsia-2/ANT-10

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label	accession	host(s)	lab	country	taxonomic information
PAK/1/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/9/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/8/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/7/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/16/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/40/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
UAE/2/2021	n/a	Arabian oryx	WRLFMD	United Arab Emirates	ME-SA/PanAsia-2/ANT-10
PAK/6/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/3/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/12/2021	n/a	water buffalo	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
UAE/1/2021	n/a	Arabian oryx	WRLFMD	United Arab Emirates	ME-SA/PanAsia-2/ANT-10
OMN/22Z2097/2021_151*	n/a	cattle	ANSES	Oman	ME-SA/PanAsia-2/ANT-10
PAK/17/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/21/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/18/2021	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/8/2019	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Bhakar4/PUN/PAK/2018*	MK342187	cattle	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Bhakar2/PUN/PAK/2018*	MK342185	cattle	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Bhakar1/PUN/PAK/2017*	MK342184	cattle	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Bhakar5/PUN/PAK/2017*	MK342188	water buffalo	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Lodrah1/PUN/PAK/2017*	MK342179	cattle	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
IRN/31/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
NIAB/PUN/PAK/223/2017*	MH085207	n/a	NIAB	Pakistan	ME-SA/PanAsia-2/ANT-10
NIAB/PUN/PAK/222/2017*	MH085206	n/a	NIAB	Pakistan	ME-SA/PanAsia-2/ANT-10
NIAB/PUN/PAK/205/2017*	MF140436	water buffalo	NIAB	Pakistan	ME-SA/PanAsia-2/ANT-10
NIAB/PUN/PAK/218/2017*	MH085204	n/a	NIAB	Pakistan	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Faisalabad1/PUN/PAK*	MK292142	cattle	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
NIAB/PUN/PAK/226/2017*	MH085208	n/a	NIAB	Pakistan	ME-SA/PanAsia-2/ANT-10
IRN/8/2017	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/5/2017	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/37/2016	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/36/2016	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/3/2017	n/a	sheep	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
VRI/CAMB/Bhakar3/PUN/PAK/2018*	MK342186	cattle	VRI-CAMB	Pakistan	ME-SA/PanAsia-2/ANT-10
PAK/7/2016	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/ANT-10

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label	accession	host(s)	lab	country	taxonomic information
IRN/88/2009	KY091282	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
SRL/2/97	AJ303531	bovine	WRLFMD	Sri Lanka	ME-SA/Sri-97
LAO/2/2006	EU667451	cattle	WRLFMD	Laos	ME-SA/PanAsia
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
IRN/18/2010	KY091283	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/BAL-09
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
BHU/3/2009	KM921814	cattle	WRLFMD	Bhutan	ME-SA/Ind-2001/d
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