



FMD Genotyping Report

Lab Reference WRL batch Number: WRLMEG/2022/00005

Sender Details:



Date received: 18/01/2022

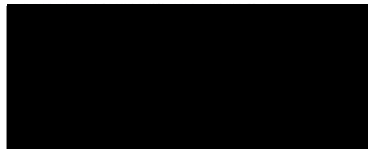
Country of Origin*: RUSSIA

Analytical work has been completed in respect of the VP1 sequence 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/>

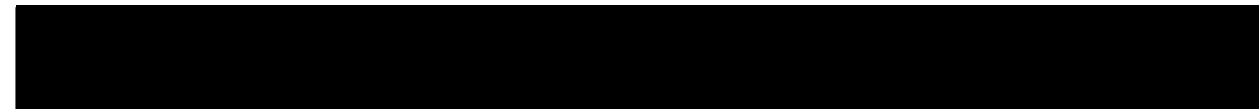
Results Approved By:

Official Stamp:



Date

18/1/2022



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

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

Genotyping Report

FMDV serotype: O
Country: Russia
Year: 2021
Batch: WRLMEG/2022/00005
No. of sequences: 1
Report date: 18th January 2022
Report generated by: Nick Knowles
Report checked by: Don King

This report is prepared on behalf of the Federal Centre for Animal Health (FGBI “ARRIAH”), Russian Federation, and covers a VP1 sequence submitted to the WRLFMD on 18/01/2022.



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

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Virus sample name:	Orenburg/RUS/2021
Sender reference:	O/Orenburg/RUS/2021
Location of origin:	Karagach, Belyaevsky raion, Orenburg oblast
Country of origin:	Russia
Date of collection:	22/12/2021
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	e
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:	18/01/2022
Last updated:	18/01/2022
VIBASys IDs: sample 49984, genome 49985, sequence viba_49986, sequencing info 49987	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_48650	MOG/3/2021		98.9	0	O	ME-SA	Ind-2001	e
viba_47397	VIT/11359/2020a	cattle	98.6	0	O	ME-SA	Ind-2001	e
viba_48186	VIT/27/2020	cattle	98.6	0	O	ME-SA	Ind-2001	e
viba_47393	VIT/11272/2020b	porcine	98.6	0	O	ME-SA	Ind-2001	e
viba_48170	VIT/23/2020	cattle	98.6	0	O	ME-SA	Ind-2001	e
viba_48162	VIT/21/2020	water buffalo	98.4	0	O	ME-SA	Ind-2001	e
viba_48174	VIT/24/2020	cattle	98.4	0	O	ME-SA	Ind-2001	e
viba_44987	VIT/28/2019	water buffalo	98.3	0	O	ME-SA	Ind-2001	e
viba_44979	VIT/25/2019	porcine	98.3	0	O	ME-SA	Ind-2001	e
viba_48190	VIT/28/2020	cattle	98.3	0	O	ME-SA	Ind-2001	e

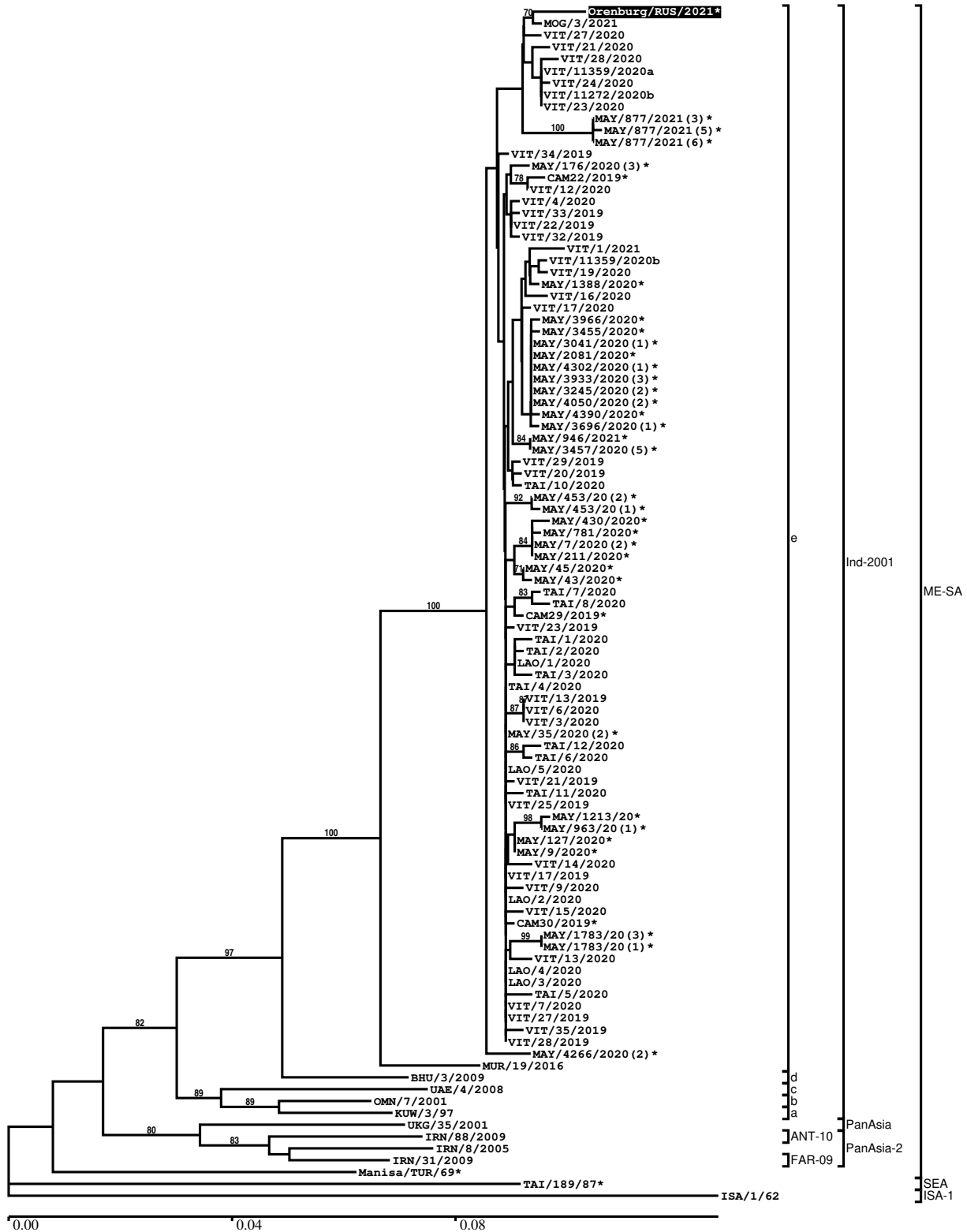
Most Closely Related Prototype Sequences

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	94.9	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	90.7	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	90.1	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	89.1	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	88.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_719	IRN/88/2009		88.3	0	O	ME-SA	PanAsia-2	ANT-10
viba_650	IRN/8/2005	ovine	87.9	0	O	ME-SA	PanAsia-2	
viba_359	Manisa/TUR/69		87.5	0	O	ME-SA		

Report on FMDV O in Russia in 2021

Batch: WRLMEG/2022/00005



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLMEG/2022/00005-Russia-O (1 sequences)
Sequence database set:	allseqs_O (5481 sequences)
Prototype sequence set:	!prototypes_O (49 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
Orenburg/RUS/2021*	n/a	cattle	ARRIAH	Russia	ME-SA/Ind-2001/e
MOG/3/2021	n/a	n/a	WRLFMD	Mongolia	ME-SA/Ind-2001/e
VIT/27/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/21/2020	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/28/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/11359/2020a	n/a	cattle	RAHO6	Vietnam	ME-SA/Ind-2001/e
VIT/24/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/11272/2020b	n/a	porcine	RAHO6	Vietnam	ME-SA/Ind-2001/e
VIT/23/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/877/2021(3)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/877/2021(5)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/877/2021(6)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
VIT/34/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/176/2020(3)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
CAM22/2019*	MZ634454	cattle	APQA	Cambodia	ME-SA/Ind-2001/e
VIT/12/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/4/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/33/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/22/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/32/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/1/2021	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/11359/2020b	n/a	cattle	RAHO6	Vietnam	ME-SA/Ind-2001/e
VIT/19/2020	n/a	n/a	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/1388/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
VIT/16/2020	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/17/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/3966/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/3455/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/3041/2020(1)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/2081/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/4302/2020(1)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/3933/2020(3)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/3245/2020(2)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/4050/2020(2)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/4390/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/3696/2020(1)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e

continued on next page

label	accession	host(s)	lab	country	taxonomic information
MAY/946/2021*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/3457/2020(5)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
VIT/29/2019	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/20/2019	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/e
TAI/10/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
MAY/453/20(2)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/453/20(1)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/430/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/781/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/7/2020(2)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/211/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/45/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/43/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
TAI/7/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
TAI/8/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
CAM29/2019*	MZ634455	cattle	APQA	Cambodia	ME-SA/Ind-2001/e
VIT/23/2019	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/e
TAI/1/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
TAI/2/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
LAO/1/2020	n/a	cattle	WRLFMD	Laos	ME-SA/Ind-2001/e
TAI/3/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
TAI/4/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
VIT/13/2019	n/a	porcine	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/6/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/3/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/35/2020(2)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
TAI/12/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
TAI/6/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
LAO/5/2020	n/a	cattle	WRLFMD	Laos	ME-SA/Ind-2001/e
VIT/21/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
TAI/11/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
VIT/25/2019	n/a	porcine	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/1213/20*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/963/20(1)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/127/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/9/2020*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
VIT/14/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/17/2019	n/a	porcine	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/9/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
LAO/2/2020	n/a	cattle	WRLFMD	Laos	ME-SA/Ind-2001/e
VIT/15/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
CAM30/2019*	MZ634456	cattle	APQA	Cambodia	ME-SA/Ind-2001/e
MAY/1783/20(3)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
MAY/1783/20(1)*	n/a	cattle	MNFMDL	Malaysia	ME-SA/Ind-2001/e
VIT/13/2020	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
LAO/4/2020	n/a	cattle	WRLFMD	Laos	ME-SA/Ind-2001/e
LAO/3/2020	n/a	cattle	WRLFMD	Laos	ME-SA/Ind-2001/e
TAI/5/2020	n/a	cattle	WRLFMD	Thailand	ME-SA/Ind-2001/e
VIT/7/2020	n/a	porcine	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/27/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/35/2019	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/e
VIT/28/2019	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/e
MAY/4266/2020(2)*	n/a	cattle	MNFMDL	Malaysia	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
UAE/4/2008	KM921876	gazelle	WRLFMD	United Arab Emirates	ME-SA/Ind-2001/c
OMN/7/2001	DQ164941	bovine	WRLFMD	Oman	ME-SA/Ind-2001/b
KUW/3/97	DQ164904	bovine	WRLFMD	Kuwait	ME-SA/Ind-2001/a
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
IRN/88/2009	KY091282	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/8/2005	KY091281	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
Manisa/TUR/69*	AY593823	n/a	PIADC	Turkey	ME-SA
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