



FMD Genotyping Report

Lab Reference WRL batch Number: WRLFMD/2023/000109

Sender Details:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Date Received: 11/12/2023

Country of Origin*: Zimbabwe

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

Results Approved By:

Official Stamp:

[REDACTED]

[REDACTED]

Date

15/12/24

[REDACTED]

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: SAT2
Country: Zimbabwe
Year: 2022
Batch: WRLFMD/2023/000109
No. of sequences: 1
Report date: 25th January 2024
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:	ZIM/1/2022
Sender reference:	5
Location of origin:	Harare
Country of origin:	Zimbabwe
Date of collection:	08/07/2022
Host species:	cattle
Serotype:	SAT2
Topotype:	III
Lineage:	
Sublineage:	
Sequence length:	642
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	16/01/2024
Primers:	SAT2-1C445F & SAT2-P1-1223F/SAT-2B208R; FMD-3161F/FMD-4303R
Received for sequencing:	22/01/2024
Created:	25/01/2024
Last updated:	25/01/2024
VIBASys IDs: sample 54887, genome 54888, sequence viba_54889, sequencing info 54890	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_51088	ZIM01/2022	bovine	100.0	0	SAT2	III		
viba_7850	BOT/3/2005	cattle	88.2	0	SAT2	III		
viba_7862	BOT/6/2005	cattle	88.2	0	SAT2	III		
viba_7870	BOT/8/2005	cattle	88.2	0	SAT2	III		
viba_3519	BOT/P3/98 VUM-29	African buffalo	88.2	0	SAT2	III		
viba_7842	BOT/1/2005	cattle	88.2	0	SAT2	III		
viba_3513	BOT/P3/98 NXA-16	African buffalo	88.1	0	SAT2	III		
viba_9278	BOT/24/2006	African buffalo	88.1	0	SAT2	III		
viba_7854	BOT/4/2005	cattle	88.0	0	SAT2	III		
viba_16681	BOT/1/2010	cattle	88.0	0	SAT2	III		

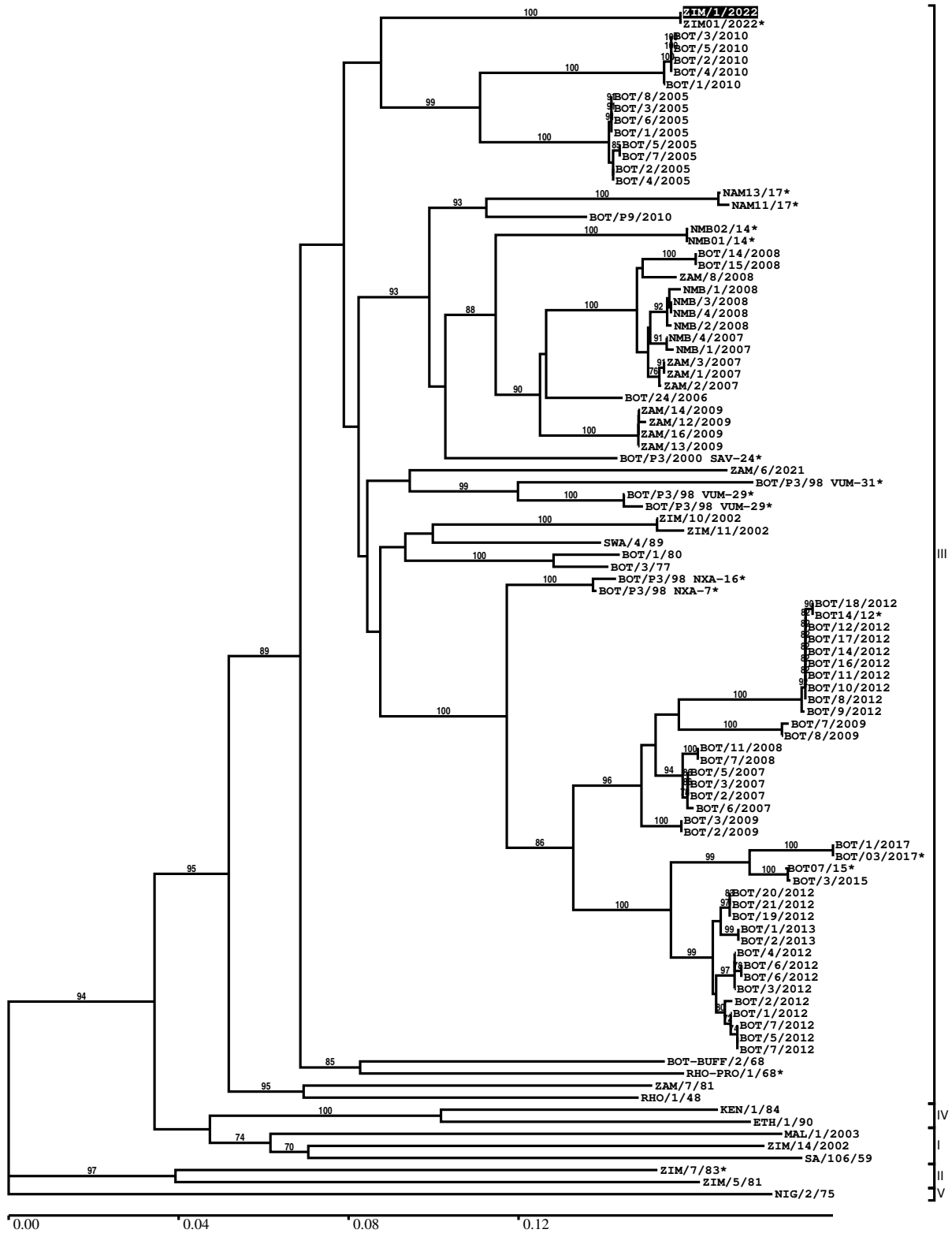
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_451	BOT/P3/98 VUM-29	African buffalo	87.8	1	SAT2	III		
viba_380	RHO/1/48		83.7	0	SAT2	III		
viba_111	MAL/1/2003	bovine	80.5	0	SAT2	I		
viba_183	ZIM/14/2002	bovine	80.3	0	SAT2	I		
viba_248	KEN/1/84	bovine	79.5	0	SAT2	IV		
viba_273	ETH/1/90	bovine	78.8	0	SAT2	IV		
viba_752	SA/106/59		77.4	0	SAT2	I		
viba_567	ZIM/7/83	bovine	77.0	0	SAT2	II		
viba_546	ZIM/5/81	bovine	76.0	0	SAT2	II		
viba_500	NIG/2/75	bovine	75.9	0	SAT2	V		

Report on FMDV SAT2 in Zimbabwe in 2022

Batch: WRLFMD/2023/000109



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_SAT2
Query sequence set:	WRLFMD/2023/000109-Zimbabwe-SAT2 (1 sequences)
Sequence database set:	allseqs_SAT2 (1191 sequences)
Prototype sequence set:	!prototypes_SAT2 (25 sequences)
Number of related sequences reported:	10
Minimal VP1 subsequence match length	600
Sequence alignment method:	muscle (default parameters)
Sequence alignment length:	642
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/SAT2

label	accession	host(s)	lab	country	taxonomic information
ZIM/1/2022	n/a	cattle	WRLFMD	Zimbabwe	III
ZIM01/2022*	n/a	bovine	BVI	Zimbabwe	III
BOT/3/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/5/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/4/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/1/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/8/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/3/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/6/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/1/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/5/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/7/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/4/2005	n/a	cattle	WRLFMD	Botswana	III
NAM13/17*	n/a	bovine	BVI	Namibia	III
NAM11/17*	n/a	bovine	BVI	Namibia	III
BOT/P9/2010	n/a	African buffalo	WRLFMD	Botswana	III
NMB02/14*	n/a	cattle	BVI	Namibia	III
NMB01/14*	n/a	cattle	BVI	Namibia	III
BOT/14/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/15/2008	n/a	cattle	WRLFMD	Botswana	III
ZAM/8/2008	n/a	cattle	WRLFMD	Zambia	III
NMB/1/2008	n/a	cattle	WRLFMD	Namibia	III
NMB/3/2008	n/a	cattle	WRLFMD	Namibia	III
NMB/4/2008	n/a	cattle	WRLFMD	Namibia	III
NMB/2/2008	n/a	cattle	WRLFMD	Namibia	III
NMB/4/2007	n/a	cattle	WRLFMD	Namibia	III
NMB/1/2007	n/a	cattle	WRLFMD	Namibia	III
ZAM/3/2007	n/a	n/a	WRLFMD	Zambia	III
ZAM/1/2007	n/a	n/a	WRLFMD	Zambia	III
ZAM/2/2007	n/a	n/a	WRLFMD	Zambia	III
BOT/24/2006	n/a	African buffalo	WRLFMD	Botswana	III
ZAM/14/2009	n/a	cattle	WRLFMD	Zambia	III
ZAM/12/2009	n/a	cattle	WRLFMD	Zambia	III
ZAM/16/2009	n/a	cattle	WRLFMD	Zambia	III

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label	accession	host(s)	lab	country	taxonomic information
ZAM/13/2009	n/a	cattle	WRLFMD	Zambia	III
BOT/P3/2000 SAV-24*	n/a	African buffalo	WRLFMD	Botswana	III
ZAM/6/2021	n/a	cattle	WRLFMD	Zambia	III
BOT/P3/98 VUM-31*	AF367125	African buffalo	OVI	Botswana	III
BOT/P3/98 VUM-29*	KY091305	African buffalo	WRLFMD	Botswana	III
BOT/P3/98 VUM-29*	AF367124	African buffalo	OVI	Botswana	III
ZIM/10/2002	n/a	bovine	WRLFMD	Zimbabwe	III
ZIM/11/2002	n/a	bovine	WRLFMD	Zimbabwe	III
SWA/4/89	KF112969	cattle	WRLFMD	South West Africa	III
BOT/1/80	KF112929	cattle	WRLFMD	Botswana	III
BOT/3/77	KF112928	cattle	OVI	Botswana	III
BOT/P3/98 NXA-16*	n/a	African buffalo	WRLFMD	Botswana	III
BOT/P3/98 NXA-7*	n/a	African buffalo	WRLFMD	Botswana	III
BOT/18/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/14/12*	n/a	n/a	BVI	Botswana	III
BOT/12/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/17/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/14/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/16/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/11/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/10/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/8/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/9/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/7/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/8/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/11/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/7/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/5/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/3/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/6/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/3/2009	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2009	n/a	cattle	WRLFMD	Botswana	III
BOT/1/2017	n/a	cattle	WRLFMD	Botswana	III
BOT/03/2017*	n/a	cattle	BVI	Botswana	III
BOT07/15*	n/a	bovine	BVI	Botswana	III
BOT/3/2015	n/a	bovine	WRLFMD	Botswana	III
BOT/20/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/21/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/19/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/1/2013	n/a	bovine	WRLFMD	Botswana	III
BOT/2/2013	n/a	bovine	WRLFMD	Botswana	III
BOT/4/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/6/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/6/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/3/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/2/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/1/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/7/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/5/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/7/2012	n/a	bovine	WRLFMD	Botswana	III
BOT-BUFF/2/68	n/a	African buffalo	WRLFMD	Botswana	III
RHO-PRO/1/68*	n/a	n/a	WRLFMD	Rhodesia	III
ZAM/7/81	n/a	bovine	WRLFMD	Zambia	III
RHO/1/48	AY593847	n/a	PIADC	Rhodesia	III
KEN/1/84	AY344505	bovine	OVI	Kenya	IV
ETH/1/90	AY343935	bovine	OVI	Ethiopia	IV
MAL/1/2003	n/a	bovine	WRLFMD	Malawi	I
ZIM/14/2002	KF219689	bovine	WRLFMD	Zimbabwe	I
SA/106/59	AY593848	n/a	PIADC	South Africa (SA)	I
ZIM/7/83*	AF136607	bovine	OVI	Zimbabwe	II
ZIM/5/81	EF134951	bovine	WRLFMD	Zimbabwe	II
NIG/2/75	AF367139	bovine	OVI	Nigeria	V

*, not a WRLFMD Reference Number

n/a, not available