

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

Genotyping Report

FMDV serotype: SAT2
Country: Zimbabwe
Year: 2022
Batch: WRLMEG/2022/00023
No. of sequences: 1
Report date: 25th July 2022
Report generated by: ██████████
Report checked by: ██████████

This report is prepared on behalf of the OIE Sub-Saharan Africa Regional Reference Laboratory (SSARRL) for FMD (Botswana Vaccine Institute, Gaborone, Botswana) and covers a VP1 sequence submitted to the WRLFMD on 25th July 2022.



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

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Virus sample name:	ZIM01/2022
Sender reference:	SAT2/ZIM01/2022
Location of origin:	n/a
Country of origin:	Zimbabwe
Date of collection:	2022
Host species:	bovine
Serotype:	SAT2
Topotype:	III
Lineage:	
Sublineage:	
Sequence length:	642
Ambiguities:	0
Material submitted for sequencing:	Epithelial tissue RNA extract
Harvest date of material:	n/a
Primers:	SAT2-P1-1223F/SAT-2B208R
Received for sequencing:	n/a
Created:	25/07/2022
Last updated:	25/07/2022
VIBASys IDs: sample 51086, genome 51087, sequence viba_51088, sequencing info 51089	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_7842	BOT/1/2005	cattle	88.2	0	SAT2	III		
viba_7850	BOT/3/2005	cattle	88.2	0	SAT2	III		
viba_3519	BOT/P3/98 VUM-29	African buffalo	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_9278	BOT/24/2006	African buffalo	88.1	0	SAT2	III		
viba_3513	BOT/P3/98 NXA-16	African buffalo	88.1	0	SAT2	III		
viba_16681	BOT/1/2010	cattle	88.0	0	SAT2	III		
viba_7846	BOT/2/2005	cattle	88.0	0	SAT2	III		
viba_7854	BOT/4/2005	cattle	88.0	0	SAT2	III		

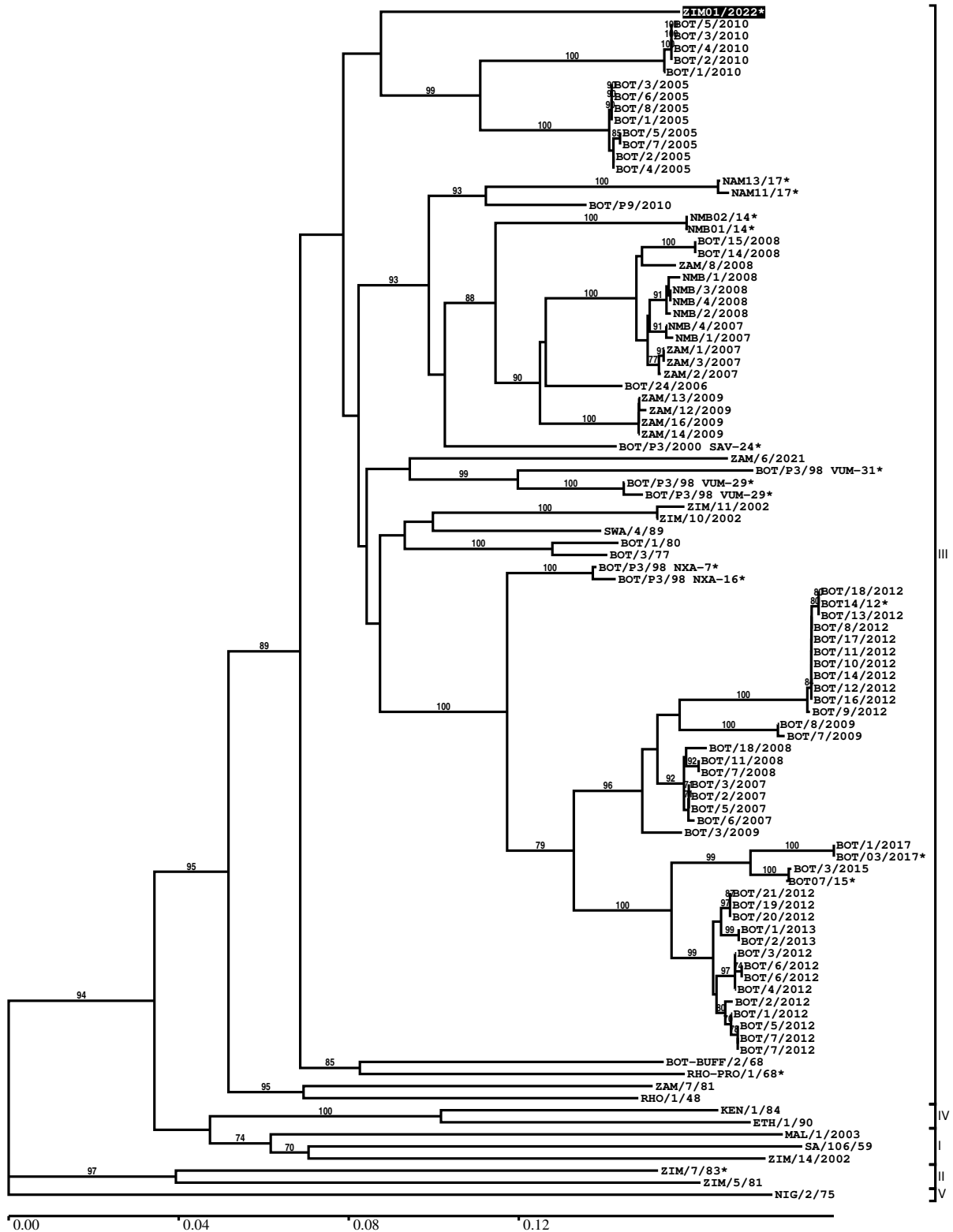
Most Closely Related Prototype Sequences

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: WRLMEG/2022/00023



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_SAT2
Query sequence set:	WRLMEG/2022/00023-Zimbabwe-SAT2 (1 sequences)
Sequence database set:	allseqs_SAT2 (1099 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
ZIM01/2022*	n/a	bovine	BVI	Zimbabwe	III
BOT/5/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/3/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/4/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2010	n/a	cattle	WRLFMD	Botswana	III
BOT/1/2010	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/8/2005	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/15/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/14/2008	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/1/2007	n/a	n/a	WRLFMD	Zambia	III
ZAM/3/2007	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/13/2009	n/a	cattle	WRLFMD	Zambia	III
ZAM/12/2009	n/a	cattle	WRLFMD	Zambia	III
ZAM/16/2009	n/a	cattle	WRLFMD	Zambia	III
ZAM/14/2009	n/a	cattle	WRLFMD	Zambia	III

continued on next page

label	accession	host(s)	lab	country	taxonomic information
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/11/2002	n/a	bovine	WRLFMD	Zimbabwe	III
ZIM/10/2002	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-7*	n/a	African buffalo	WRLFMD	Botswana	III
BOT/P3/98 NXA-16*	n/a	African buffalo	WRLFMD	Botswana	III
BOT/18/2012	n/a	bovine	WRLFMD	Botswana	III
BOT14/12*	n/a	n/a	BVI	Botswana	III
BOT/13/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/8/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/17/2012	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/14/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/12/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/16/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/9/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/8/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/7/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/18/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/11/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/7/2008	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/5/2007	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/1/2017	n/a	cattle	WRLFMD	Botswana	III
BOT/03/2017*	n/a	cattle	BVI	Botswana	III
BOT/3/2015	n/a	bovine	WRLFMD	Botswana	III
BOT07/15*	n/a	bovine	BVI	Botswana	III
BOT/21/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/19/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/20/2012	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/3/2012	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/4/2012	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/5/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/7/2012	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
SA/106/59	AY593848	n/a	PIADC	South Africa (SA)	I
ZIM/14/2002	KF219689	bovine	WRLFMD	Zimbabwe	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