

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

Genotyping Report

FMDV serotype: SAT3
Country: Zambia
Year: 2018
Batch: WRLFMD/2021/00008
No. of sequences: 1
Report date: 26th July 2021
Report generated by: Nick Knowles
Report checked by: Jemma Wadsworth



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

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Virus sample name:	ZAM/9/2018
Sender reference:	cvri 04/18
Location of origin:	Western
Country of origin:	Zambia
Date of collection:	03/01/2018
Host species:	cattle
Serotype:	SAT3
Topotype:	II
Lineage:	
Sublineage:	
Sequence length:	648
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	22/06/2021
Primers:	SAT3-1C559F/SAT-2B208R, SAT3-P1-1222F/SAT-2B208R, FMD-3161F/FMD-4303R
Received for sequencing:	20/07/2021
Created:	26/07/2021
Last updated:	26/07/2021
VIBASys IDs: sample 48201, genome 48202, sequence viba_48203, sequencing info 48204	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_33808	ZAM/07/2017	bovine	99.1	0	SAT3	II		
viba_35222	ZAM/1/2017	cattle	98.9	0	SAT3	II		
viba_27754	ZAM/3/2015	bovine	97.8	0	SAT3	II		
viba_37621	ZAM/9/2015	cattle	97.8	0	SAT3	II		
viba_37617	ZAM/8/2015	cattle	97.8	0	SAT3	II		
viba_26608	BOT/P3/98 VUM-21	African buffalo	89.1	0	SAT3	II		
viba_37010	BOT/P3/98 NXA-9	African buffalo	89.0	0	SAT3	II		
viba_26604	BOT/P3/98 NXA-9	African buffalo	88.9	0	SAT3	II		
viba_43857	BOT/P3/98 NXA-6 (BOT/6/98)	African buffalo	88.7	0	SAT3	II		
viba_26596	BOT/P3/98 NXA-6	African buffalo	88.1	2	SAT3	II		

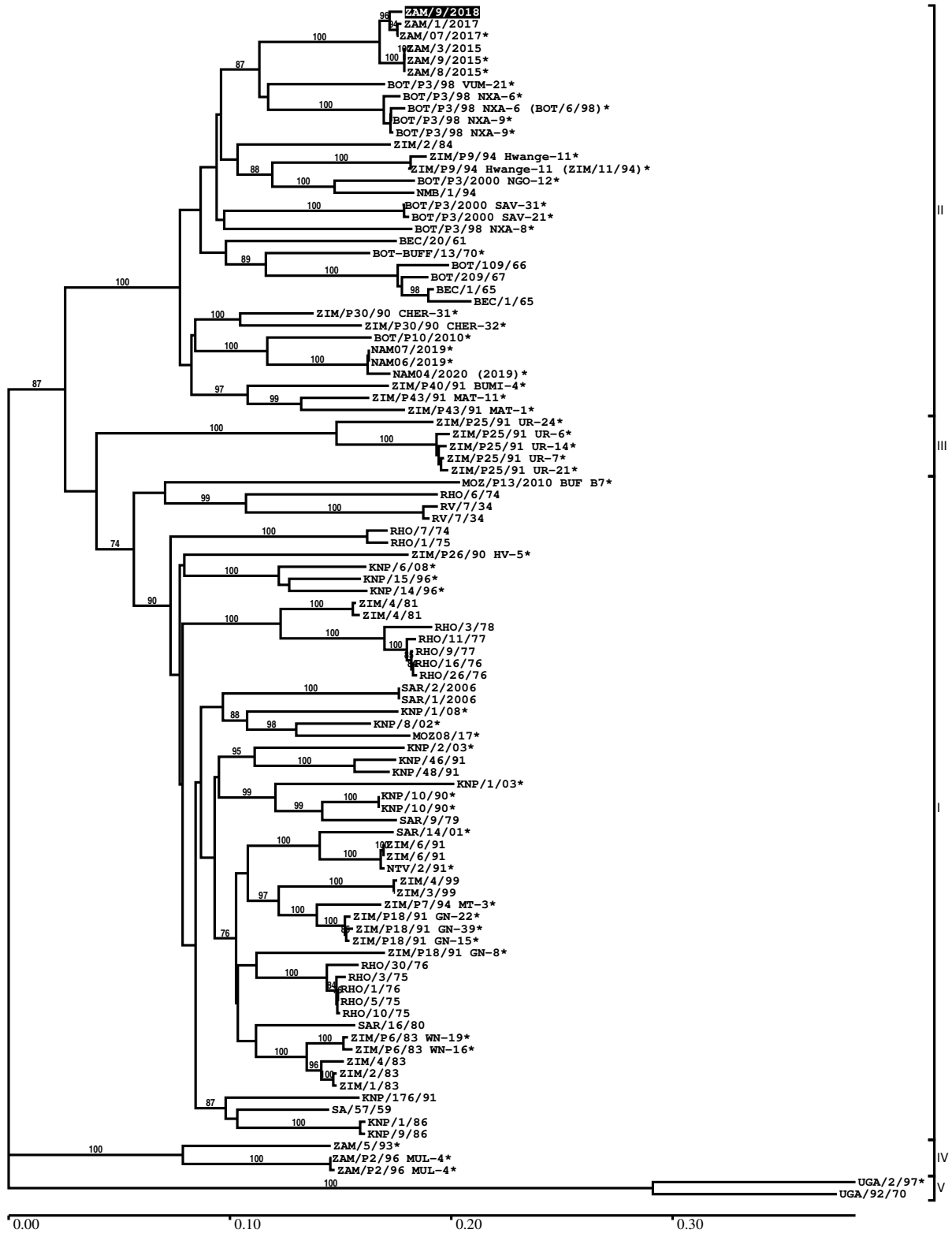
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_599	BEC/20/61		85.0	0	SAT3	II		
viba_770	BEC/1/65		84.3	0	SAT3	II		
viba_227	KNP/10/90	African buffalo	76.5	0	SAT3	I		
viba_572	SA/57/59		76.1	0	SAT3	I		
viba_748	ZAM/P2/96 MUL-4	African buffalo	75.9	0	SAT3	IV		
viba_26691	RV/7/34	cattle	75.9	0	SAT3	I		
viba_364	ZIM/P25/91 UR-7	African buffalo	75.6	0	SAT3	III		
viba_26659	MOZ/P13/2010 BUF B7	African buffalo	73.5	0	SAT3	I		
viba_56	UGA/2/97	African buffalo	64.9	0	SAT3	V		
viba_156	UGA/92/70	African buffalo	63.6	0	SAT3	V		

Report on FMDV SAT3 in Zambia in 2018

Batch: WRLFMD/2021/00008



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_SAT3
Query sequence set:	WRLFMD/2021/00008-Zambia-SAT3 (1 sequences)
Sequence database set:	allseqs_SAT3 (170 sequences)
Prototype sequence set:	!prototypes_SAT3 (10 sequences)
Number of related sequences reported:	10
Minimal VP1 subsequence match length	600
Sequence alignment method:	muscle (default parameters)
Sequence alignment length:	648
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/SAT3

label	accession	host(s)	lab	country	taxonomic information
ZAM/9/2018	n/a	cattle	WRLFMD	Zambia	II
ZAM/1/2017	n/a	cattle	WRLFMD	Zambia	II
ZAM/07/2017*	n/a	bovine	BVI	Zambia	II
ZAM/3/2015	n/a	bovine	WRLFMD	Zambia	II
ZAM/9/2015*	n/a	cattle	BVI	Zambia	II
ZAM/8/2015*	n/a	cattle	BVI	Zambia	II
BOT/P3/98 VUM-21*	n/a	African buffalo	WRLFMD	Botswana	II
BOT/P3/98 NXA-6*	n/a	African buffalo	WRLFMD	Botswana	II
BOT/P3/98 NXA-6 (BOT/6/98)*	MK415742	African buffalo	OVI	Botswana	II
BOT/P3/98 NXA-9*	KT161976	African buffalo	OVI	Botswana	II
BOT/P3/98 NXA-9*	n/a	African buffalo	WRLFMD	Botswana	II
ZIM/2/84	n/a	cattle	WRLFMD	Zimbabwe	II
ZIM/P9/94 Hwange-11*	n/a	African buffalo	WRLFMD	Zimbabwe	II
ZIM/P9/94 Hwange-11 (ZIM/11/94)*	MK415743	African buffalo	OVI	Zimbabwe	II
BOT/P3/2000 NGO-12*	n/a	African buffalo	WRLFMD	Botswana	II
NMB/1/94	n/a	cattle	WRLFMD	Namibia	II
BOT/P3/2000 SAV-31*	n/a	African buffalo	WRLFMD	Botswana	II
BOT/P3/2000 SAV-21*	n/a	African buffalo	WRLFMD	Botswana	II
BOT/P3/98 NXA-8*	n/a	African buffalo	WRLFMD	Botswana	II
BEC/20/61	AY593851	n/a	PIADC	Bechuanaland	II
BOT-BUFF/13/70*	n/a	African buffalo	WRLFMD	Botswana	II
BOT/109/66	n/a	cattle	WRLFMD	Botswana	II
BOT/209/67	n/a	cattle	WRLFMD	Botswana	II
BEC/1/65	AY593853	n/a	PIADC	Bechuanaland	II
BEC/1/65	M28719	n/a	WELLCOME	Bechuanaland	II
ZIM/P30/90 CHER-31*	n/a	African buffalo	WRLFMD	Zimbabwe	II
ZIM/P30/90 CHER-32*	n/a	African buffalo	WRLFMD	Zimbabwe	II
BOT/P10/2010*	n/a	African buffalo	WRLFMD	Botswana	II
NAM07/2019*	n/a	bovine	BVI	Namibia	II
NAM06/2019*	n/a	bovine	BVI	Namibia	II
NAM04/2020 (2019)*	n/a	bovine	BVI	Namibia	II
ZIM/P40/91 BUMI-4*	n/a	African buffalo	WRLFMD	Zimbabwe	II
ZIM/P43/91 MAT-11*	n/a	African buffalo	WRLFMD	Zimbabwe	II
ZIM/P43/91 MAT-1*	n/a	African buffalo	WRLFMD	Zimbabwe	II
ZIM/P25/91 UR-24*	n/a	African buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-6*	n/a	African buffalo	WRLFMD	Zimbabwe	III

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label	accession	host(s)	lab	country	taxonomic information
ZIM/P25/91 UR-14*	n/a	African buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-7*	KY091306	African buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-21*	n/a	African buffalo	WRLFMD	Zimbabwe	III
MOZ/P13/2010 BUF B7*	KF219693	African buffalo	WRLFMD	Mozambique	I
RHO/6/74	n/a	n/a	WRLFMD	Rhodesia	I
RV/7/34	n/a	cattle	WRLFMD	Rhodesia	I
RV/7/34	n/a	cattle	WRLFMD	Rhodesia	I
RHO/7/74	n/a	n/a	WRLFMD	Rhodesia	I
RHO/1/75	n/a	cattle	WRLFMD	Rhodesia	I
ZIM/P26/90 HV-5*	n/a	African buffalo	WRLFMD	Zimbabwe	I
KNP/6/08*	MK415735	African buffalo	OVI	South Africa (KNP)	I
KNP/15/96*	KT161977	African buffalo	OVI	South Africa (KNP)	I
KNP/14/96*	MK415741	African buffalo	OVI	South Africa (KNP)	I
ZIM/4/81	n/a	cattle	WRLFMD	Zimbabwe	I
ZIM/4/81	KX375417	cattle	APQA, ROK	Zimbabwe	I
RHO/3/78	n/a	cattle	WRLFMD	Rhodesia	I
RHO/11/77	n/a	cattle	WRLFMD	Rhodesia	I
RHO/9/77	n/a	n/a	WRLFMD	Rhodesia	I
RHO/16/76	n/a	cattle	WRLFMD	Rhodesia	I
RHO/26/76	n/a	cattle	WRLFMD	Rhodesia	I
SAR/2/2006	n/a	cattle	WRLFMD	Republic of South Africa	I
SAR/1/2006	n/a	cattle	WRLFMD	Republic of South Africa	I
KNP/1/08*	MK415734	African buffalo	OVI	South Africa (KNP)	I
KNP/8/02*	MK415739	African buffalo	OVI	South Africa (KNP)	I
MOZ08/17*	n/a	bovine	BVI	Mozambique	I
KNP/2/03*	MK415738	African buffalo	OVI	South Africa (KNP)	I
KNP/46/91	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
KNP/48/91	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
KNP/1/03*	MK415737	African buffalo	OVI	South Africa (KNP)	I
KNP/10/90*	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
KNP/10/90*	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
SAR/9/79	n/a	cattle	WRLFMD	Republic of South Africa	I
SAR/14/01*	MK415740	African buffalo	OVI	Republic of South Africa	I
ZIM/6/91	n/a	cattle	WRLFMD	Zimbabwe	I
ZIM/6/91	KM268901	cattle	WRLFMD	Zimbabwe	I
NTV/2/91*	n/a	African buffalo	WRLFMD	South Africa (NTV)	I
ZIM/4/99	n/a	cattle	WRLFMD	Zimbabwe	I
ZIM/3/99	n/a	cattle	WRLFMD	Zimbabwe	I
ZIM/P7/94 MT-3*	n/a	African buffalo	WRLFMD	Zimbabwe	I
ZIM/P18/91 GN-22*	n/a	African buffalo	WRLFMD	Zimbabwe	I
ZIM/P18/91 GN-39*	n/a	African buffalo	WRLFMD	Zimbabwe	I
ZIM/P18/91 GN-15*	n/a	African buffalo	WRLFMD	Zimbabwe	I
ZIM/P18/91 GN-8*	n/a	African buffalo	WRLFMD	Zimbabwe	I
RHO/30/76	n/a	n/a	WRLFMD	Rhodesia	I
RHO/3/75	n/a	cattle	WRLFMD	Rhodesia	I
RHO/1/76	n/a	cattle	WRLFMD	Rhodesia	I
RHO/5/75	n/a	cattle	WRLFMD	Rhodesia	I
RHO/10/75	n/a	greater kudu	WRLFMD	Rhodesia	I
SAR/16/80	n/a	African buffalo	WRLFMD	Republic of South Africa	I
ZIM/P6/83 WN-19*	n/a	African buffalo	WRLFMD	Zimbabwe	I
ZIM/P6/83 WN-16*	n/a	African buffalo	WRLFMD	Zimbabwe	I

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label	accession	host(s)	lab	country	taxonomic information
ZIM/4/83	n/a	n/a	WRLFMD	Zimbabwe	I
ZIM/2/83	n/a	cattle	WRLFMD	Zimbabwe	I
ZIM/1/83	n/a	n/a	WRLFMD	Zimbabwe	I
KNP/176/91	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
SA/57/59	AY593850	n/a	PIADC	South Africa (SA)	I
KNP/1/86	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
KNP/9/86	n/a	African buffalo	WRLFMD	South Africa (KNP)	I
ZAM/5/93*	MK415744	African buffalo	OVI	Zambia	IV
ZAM/P2/96 MUL-4*	KY091307	African buffalo	WRLFMD	Zambia	IV
ZAM/P2/96 MUL-4*	DQ009741	African buffalo	OVI	Zambia	IV
UGA/2/97*	DQ009742	African buffalo	OVI	Uganda	V
UGA/92/70	KF219685	African buffalo	WRLFMD	Uganda	V

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n/a, not available