

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

Genotyping Report

FMDV serotype: SAT3
Country: Zambia
Year: 2015
Batch: WRLFMD/2016/00022
No. of sequences: 1
Report date: 12th July 2016
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska

Analysis Parameters

VP1 subsequence extractor: vp1_SAT3
Query sequence set: WRLFMD/2016/00022-Zambia-SAT3 (1 sequences)
Sequence database set: allseqs_SAT3 (146 sequences)
Prototype sequence set: prototypes_SAT3 (8 sequences)
Number of related sequences reported: 10
Minimal VP1 subsequence match length: 600
VIBASys version: reflabs-1.0.2



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

email: reporting@pirbright.ac.uk

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Virus sample name:	ZAM/3/2015
Sender reference:	ZAM 09/15
Location of origin:	Nalolo, Nkeyema district, Western province
Country of origin:	Zambia
Date of collection:	23/10/2015
Host species:	bovine
Serotype:	SAT3
Topotype:	II
Lineage:	
Sublineage:	
Sequence length:	648
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	24/06/2016
Primers:	SAT3-1C559F/SAT-2B208R; SAT3-P1-1222F/SAT-2B208R
Received for sequencing:	07/07/2016
Created:	11/07/2016
Last updated:	11/07/2016

VIBASys IDs: sample 27752, genome 27753, sequence viba_27754, sequencing info 27755

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_26783	ZAM08/2015	cattle	100.0	0	SAT3	II		
viba_26787	ZAM09/2015	cattle	100.0	0	SAT3	II		
viba_26604	BOT/P3/98 NXA-9	african buffalo	88.4	0	SAT3	II		
viba_26608	BOT/P3/98 VUM-21	african buffalo	88.4	0	SAT3	II		
viba_26596	BOT/P3/98 NXA-6	african buffalo	87.7	2	SAT3	II		
viba_26616	BOT/P3/2000 SAV-21	african buffalo	85.8	0	SAT3	II		
viba_26620	BOT/P3/2000 SAV-31	african buffalo	85.5	3	SAT3	II		
viba_26612	BOT/P3/2000 NGO-12	african buffalo	85.2	0	SAT3	II		
viba_26592	BOT-BUFF/13/70	african buffalo	84.8	0	SAT3	II		
viba_26891	ZIM/P30/90 CHER-31	african buffalo	84.8	0	SAT3	II		

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_599	BEC/20/61		84.7	0	SAT3	II		
viba_770	BEC/1/65		84.4	0	SAT3	II		
viba_227	KNP/10/90	african buffalo	76.9	0	SAT3	I		
viba_572	SA/57/59		76.7	0	SAT3	I		
viba_748	ZAM/P2/96 MUL-4	african buffalo	75.1	0	SAT3	IV		
viba_364	ZIM/P25/91 UR-7	african buffalo	74.8	0	SAT3	III		
viba_56	UGA/2/97	african buffalo	65.8	0	SAT3	V		
viba_156	UGA/92/70	african buffalo	63.4	0	SAT3	V		

Report on FMDV SAT3 in Zambia in 2015

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Sequence alignment method:	muscle (default parameters)
Phylogeny reconstruction method:	fdnadist, fneighbor
Number of bootstrap samples:	1000
Displaying bootstrap values above:	70.0%
Number of sequences in tree capped at:	100
*, not a WRLFMD Reference Number	

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/3/2015	n/a	bovine	WRLFMD	Zambia	II
ZAM08/2015*	n/a	cattle	BVI	Zambia	II
ZAM09/2015*	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-9*	n/a	african buffalo	WRLFMD	Botswana	II
BOT/P3/2000 SAV-21*	n/a	african buffalo	WRLFMD	Botswana	II
BOT/P3/2000 SAV-31*	n/a	african buffalo	WRLFMD	Botswana	II
BOT/P3/98 NXA-8*	n/a	african buffalo	WRLFMD	Botswana	II
ZIM/2/84	n/a	n/a	WRLFMD	Zimbabwe	II
ZIM/P9/94 Hwange-11*	n/a	african buffalo	WRLFMD	Zimbabwe	II
BOT/P3/2000 NGO-12*	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	n/a	WRLFMD	Botswana	II
BEC/1/65	AY593853	n/a	PIADC	Bechuanaland	II
BEC/1/65	M28719	n/a	WELLCOME	Bechuanaland	II
BOT/209/67	n/a	cattle	WRLFMD	Botswana	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
ZIM/P40/91 BUMI-4*	n/a	african buffalo	WRLFMD	Zimbabwe	II
ZIM/P43/91 MAT-1*	n/a	african buffalo	WRLFMD	Zimbabwe	II
ZIM/P43/91 MAT-11*	n/a	african buffalo	WRLFMD	Zimbabwe	II
BOT/P10/2010*	n/a	african buffalo	WRLFMD	Botswana	II
RHO/6/74	n/a	n/a	WRLFMD	Rhodesia	I
RHO/2/74	n/a	n/a	WRLFMD	Rhodesia	I
RHO/1/74B	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	n/a	WRLFMD	Rhodesia	I
ZIM/4/81	n/a	n/a	WRLFMD	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/26/76	n/a	n/a	WRLFMD	Rhodesia	I
RHO/16/76	n/a	cattle	WRLFMD	Rhodesia	I
ZIM/P26/90 HV-5*	n/a	african buffalo	WRLFMD	Zimbabwe	I
SAR/1/2006	n/a	cattle	WRLFMD	Republic of South Africa	I
SAR/2/2006	n/a	cattle	WRLFMD	Republic of South Africa	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/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
ZIM/P34/91 CK-10*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P34/91 CK-4*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P34/91 CK-11*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P34/91 CK-7*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P34/91 CK-12*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P34/91 CK-3*	n/a	african buffalo	WRLFMD	Zimbabwe	I
NTV/2/91*	n/a	african buffalo	WRLFMD	South Africa (NTV)	I
ZIM/6/91	n/a	cattle	WRLFMD	Zimbabwe	I
ZIM/3/99	n/a	cattle	WRLFMD	Zimbabwe	I

continued on next page

label	accession	host(s)	lab	country	taxonomic information
ZIM/4/99	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-15*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P18/91 GN-39*	n/a	african buffalo	WRLFMD	Zimbabwe	I
SAR/16/80	n/a	african buffalo	WRLFMD	Republic of South Africa	I
ZIM/P6/83 WN-16*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/P6/83 WN-19*	n/a	african buffalo	WRLFMD	Zimbabwe	I
ZIM/4/83	n/a	n/a	WRLFMD	Zimbabwe	I
ZIM/2/83	n/a	n/a	WRLFMD	Zimbabwe	I
ZIM/1/83	n/a	n/a	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/23/76	n/a	cattle	WRLFMD	Rhodesia	I
RHO/10/75	n/a	kudu	WRLFMD	Rhodesia	I
RHO/10/75	n/a	kudu	WRLFMD	Rhodesia	I
RHO/5/75	n/a	cattle	WRLFMD	Rhodesia	I
RHO/1/76	n/a	cattle	WRLFMD	Rhodesia	I
RHO/5/76	n/a	n/a	WRLFMD	Rhodesia	I
RHO/3/75	n/a	cattle	WRLFMD	Rhodesia	I
KNP/176/91	n/a	african buffalo	WRLFMD	South Africa (KNP)	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
SA/57/59	AY593850	n/a	PIADC	South Africa (SA)	I
MAL/3/76	n/a	cattle	WRLFMD	Malawi	III
ZIM/P25/91 UR-5*	DQ009740	african buffalo	OVI	Zimbabwe	III
ZIM/P25/91 UR-19*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-6*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-16*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-13*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-5*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-14*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-21*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-7*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-23*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-22*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-26*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P25/91 UR-24*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P27/90 DSA-31*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZIM/P27/90 DSA-44*	n/a	african buffalo	WRLFMD	Zimbabwe	III
ZAM/P2/96 NAN-11*	n/a	african buffalo	WRLFMD	Zambia	IV
ZAM/P2/96 MUL-4*	DQ009741	african buffalo	OVI	Zambia	IV
ZAM/P2/96 MUL-4*	n/a	african buffalo	WRLFMD	Zambia	IV
UGA/2/97*	DQ009742	african buffalo	OVI	Uganda	V
UGA/92/70	KF219685	african buffalo	WRLFMD	Uganda	V

*, not a WRLFMD Reference Number

n/a, not available