

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

## Genotyping Report

FMDV serotype: SAT2  
Country: Namibia (NMB)  
Year: 2015  
Batch: WRLFMD/2016/00026  
No. of sequences: 1  
Report date: 2nd August 2016  
Report generated by: Nick Knowles  
Report checked by: Kasia Bankowska

### Analysis Parameters

VP1 subsequence extractor: vp1\_SAT2  
Query sequence set: WRLFMD/2016/00026-Namibia (NMB)-SAT2 (1 sequences)  
Sequence database set: !allseqs\_SAT2 (816 sequences)  
Prototype sequence set: !prototypes\_SAT2 (25 sequences)  
Number of related sequences reported: 10  
Minimal VP1 subsequence match length: 600  
VIBASys version: reflabs-1.0.3



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

email: [reporting@pirbright.ac.uk](mailto:reporting@pirbright.ac.uk)

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Virus sample name:	NMB/7/2015
Sender reference:	NAM 14/15
Location of origin:	n/a
Country of origin:	Namibia (NMB)
Date of collection:	13/05/2015
Host species:	bovine
Serotype:	SAT2
Topotype:	III
Lineage:	
Sublineage:	
Sequence length:	642
Ambiguities:	0
Material submitted for sequencing:	BTy2
Harvest date of material:	26/07/2016
Primers:	SAT2-1C445F/SAT-2B208R; SAT2-P1-1223F/SAT-2B208R
Received for sequencing:	28/07/2016
Created:	01/08/2016
Last updated:	01/08/2016
VIBASys IDs: sample 29667, genome 29668, sequence viba_29669, sequencing info 29670	

### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_25690	NMB/6/2015	bovine	99.5	0	SAT2	III		
viba_25686	NMB/5/2015	bovine	99.5	0	SAT2	III		
viba_25682	NMB/4/2015	bovine	99.5	0	SAT2	III		
viba_25678	NMB/3/2015	bovine	99.4	0	SAT2	III		
viba_25674	NMB/2/2015	bovine	99.4	0	SAT2	III		
viba_25707	NAM20/15	cattle	99.1	0	SAT2	III		
viba_25695	NAM04/15	cattle	94.2	0	SAT2	III		
viba_1620	BOT/1/80	cattle	86.6	0	SAT2	III		
viba_1616	BOT/3/77	cattle	86.1	0	SAT2	III		
viba_3519	BOT/P3/98 VUM-29	african buffalo	85.7	0	SAT2	III		

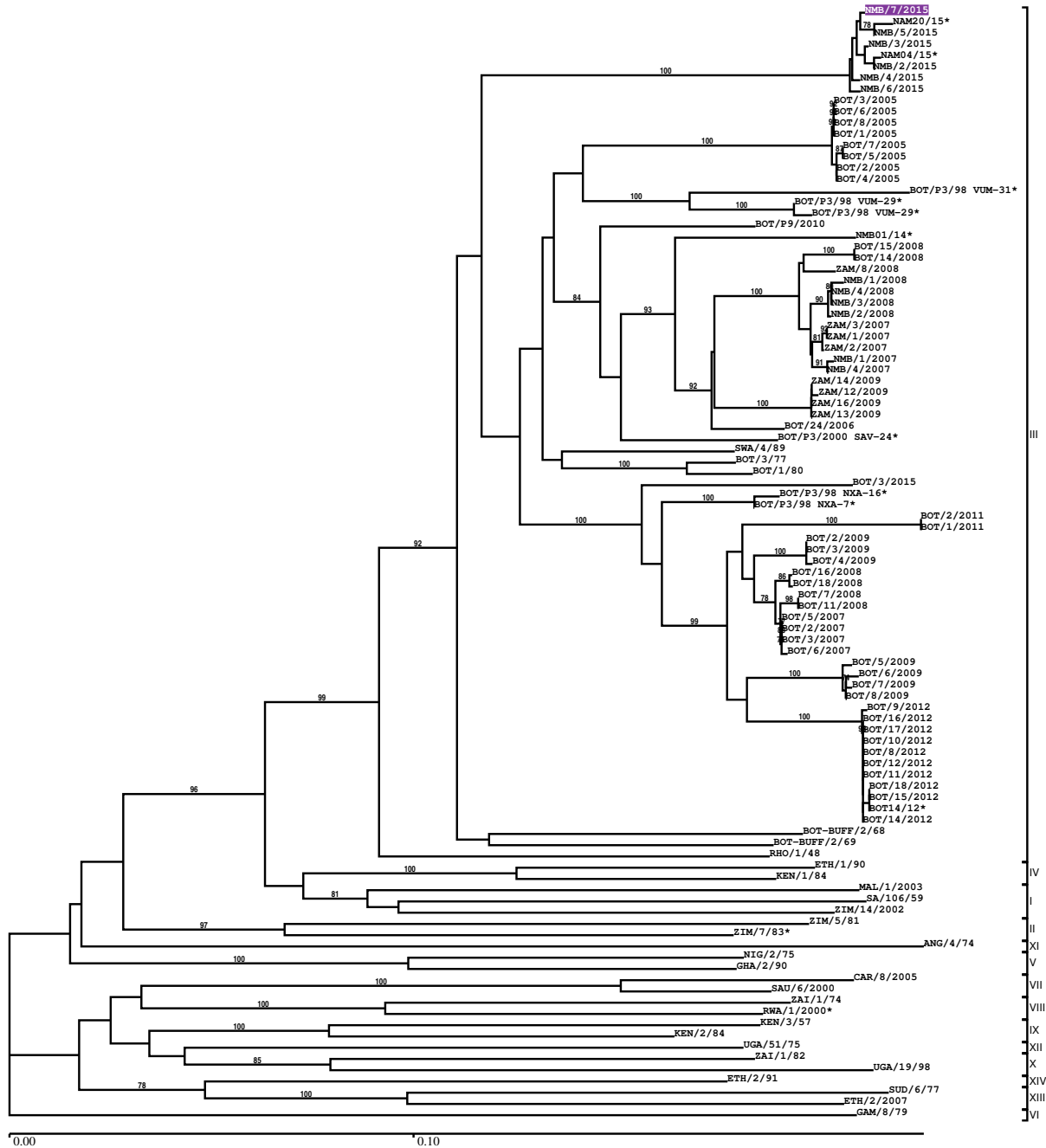
### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_451	BOT/P3/98 VUM-29	african buffalo	85.4	1	SAT2	III		
viba_380	RHO/1/48		82.7	0	SAT2	III		
viba_183	ZIM/14/2002	bovine	77.8	0	SAT2	I		
viba_111	MAL/1/2003	bovine	77.0	0	SAT2	I		
viba_752	SA/106/59		77.0	0	SAT2	I		
viba_248	KEN/1/84	bovine	76.8	0	SAT2	IV		
viba_273	ETH/1/90	bovine	76.7	0	SAT2	IV		
viba_567	ZIM/7/83	bovine	75.7	0	SAT2	II		
viba_728	GHA/2/90	bovine	74.5	0	SAT2	V		
viba_546	ZIM/5/81	bovine	74.3	0	SAT2	II		

Report on FMDV SAT2 in Namibia (NMB) in 2015

Batch: WRLFMD/2016/00026



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/SAT2

label	accession	host(s)	lab	country	taxonomic information
NMB/7/2015	n/a	bovine	WRLFMD	Namibia	III
NAM20/15*	n/a	cattle	BVI	Namibia	III
NMB/5/2015	n/a	bovine	WRLFMD	Namibia	III
NMB/3/2015	n/a	bovine	WRLFMD	Namibia	III
NAM04/15*	n/a	cattle	BVI	Namibia	III
NMB/2/2015	n/a	bovine	WRLFMD	Namibia	III
NMB/4/2015	n/a	bovine	WRLFMD	Namibia	III
NMB/6/2015	n/a	bovine	WRLFMD	Namibia	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/7/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/5/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/4/2005	n/a	cattle	WRLFMD	Botswana	III
BOT/P3/98 VUM-31*	AF367125	african buffalo	OVI	Botswana	III
BOT/P3/98 VUM-29*	n/a	african buffalo	WRLFMD	Botswana	III
BOT/P3/98 VUM-29*	AF367124	african buffalo	OVI	Botswana	III
BOT/P9/2010	n/a	african buffalo	WRLFMD	Botswana	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/4/2008	n/a	cattle	WRLFMD	Namibia	III
NMB/3/2008	n/a	cattle	WRLFMD	Namibia	III
NMB/2/2008	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
NMB/1/2007	n/a	cattle	WRLFMD	Namibia	III
NMB/4/2007	n/a	cattle	WRLFMD	Namibia	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
ZAM/13/2009	n/a	cattle	WRLFMD	Zambia	III
BOT/24/2006	n/a	african buffalo	WRLFMD	Botswana	III
BOT/P3/2000 SAV-24*	n/a	african buffalo	WRLFMD	Botswana	III
SWA/4/89	KF112969	cattle	WRLFMD	South Africa	III
BOT/3/77	KF112928	cattle	OVI	Botswana	III
BOT/1/80	KF112929	cattle	WRLFMD	Botswana	III
BOT/3/2015	n/a	bovine	WRLFMD	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/2/2011	n/a	cattle	WRLFMD	Botswana	III
BOT/1/2011	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2009	n/a	cattle	WRLFMD	Botswana	III
BOT/3/2009	n/a	cattle	WRLFMD	Botswana	III

*continued on next page*

label	accession	host(s)	lab	country	taxonomic information
BOT/4/2009	n/a	cattle	WRLFMD	Botswana	III
BOT/16/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/18/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/7/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/11/2008	n/a	cattle	WRLFMD	Botswana	III
BOT/5/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/2/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/3/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/6/2007	n/a	cattle	WRLFMD	Botswana	III
BOT/5/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/6/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/7/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/8/2009	n/a	n/a	WRLFMD	Botswana	III
BOT/9/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/16/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/17/2012	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/12/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/11/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/18/2012	n/a	bovine	WRLFMD	Botswana	III
BOT/15/2012	n/a	bovine	WRLFMD	Botswana	III
BOT14/12*	n/a	n/a	BVI	Botswana	III
BOT/14/2012	n/a	bovine	WRLFMD	Botswana	III
BOT-BUFF/2/68	n/a	african buffalo	WRLFMD	Botswana	III
BOT-BUFF/2/69	n/a	african buffalo	WRLFMD	Botswana	III
RHO/1/48	AY593847	n/a	PIADC	Rhodesia	III
ETH/1/90	AY343935	bovine	OVI	Ethiopia	IV
KEN/1/84	AY344505	bovine	OVI	Kenya	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/5/81	EF134951	bovine	WRLFMD	Zimbabwe	II
ZIM/7/83*	AF136607	bovine	OVI	Zimbabwe	II
ANG/4/74	AF479417	n/a	OVI	Angola	XI
NIG/2/75	AF367139	bovine	OVI	Nigeria	V
GHA/2/90	AF479415	bovine	OVI	Ghana	V
CAR/8/2005	JX570616	cattle	WRLFMD	Cameroon	VII
SAU/6/2000	AF367135	bovine	OVI	Saudi Arabia	VII
ZAI/1/74	DQ009737	n/a	OVI	Zaire	VIII
RWA/1/2000*	AF367134	n/a	OVI	Rwanda	VIII
KEN/3/57	AJ251473	n/a	WRLFMD	Kenya	IX
KEN/2/84	AY343941	bovine	OVI	Kenya	IX
UGA/51/75	AY343963	bovine	OVI	Uganda	XII
ZAI/1/82	AF367100	bovine	OVI	Zaire	X
UGA/19/98	AY343969	n/a	OVI	Uganda	X
ETH/2/91	AY343938	bovine	OVI	Ethiopia	XIV
SUD/6/77	AY343939	n/a	OVI	Sudan	XIII
ETH/2/2007	FJ798161	cattle	WRLFMD	Ethiopia	XIII
GAM/8/79	AF479410	bovine	OVI	Gambia	VI

\*, not a WRLFMD Reference Number

n/a, not available