

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

Genotyping Report

FMDV serotype: SAT2
Country: Ethiopia
Year: 2018
Batch: WRLFMD/2018/00009
No. of sequences: 1
Report date: 9th April 2018
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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

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Virus sample name:	ETH/11/2018
Sender reference:	ET-19431
Location of origin:	Kafta Humera, Western Zone, Tigray
Country of origin:	Ethiopia
Date of collection:	25/01/2018
Host species:	cattle
Serotype:	SAT2
Topotype:	VII
Lineage:	Lib-12
Sublineage:	
Sequence length:	642
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	22/03/2018
Primers:	SAT2-1C445F/SAT-2B208R; SAT2-P1-1223F/SAT-2B208R
Received for sequencing:	03/04/2018
Created:	04/04/2018
Last updated:	04/04/2018
VIBASys IDs: sample 36129, genome 36130, sequence viba_36131, sequencing info 36132	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_20473	CAR/9/2012		95.5	0	SAT2	VII	Lib-12	
viba_20469	CAR/8/2012		95.5	0	SAT2	VII	Lib-12	
viba_35963	CAR/G3796/2012		95.5	0	SAT2	VII	Lib-12	
viba_20477	CAR/10/2012		95.5	0	SAT2	VII	Lib-12	
viba_35967	CAR/G3808/2012		95.5	0	SAT2	VII	Lib-12	
viba_20588	LIB/39/2012	cattle	95.3	0	SAT2	VII	Lib-12	
viba_20592	LIB/40/2012	cattle	95.3	0	SAT2	VII	Lib-12	
viba_20481	CAR/24/2012	bovine	95.3	0	SAT2	VII	Lib-12	
viba_35971	CAR/B001070/2012		95.3	0	SAT2	VII	Lib-12	
viba_20596	LIB/41/2012	cattle	95.3	0	SAT2	VII	Lib-12	

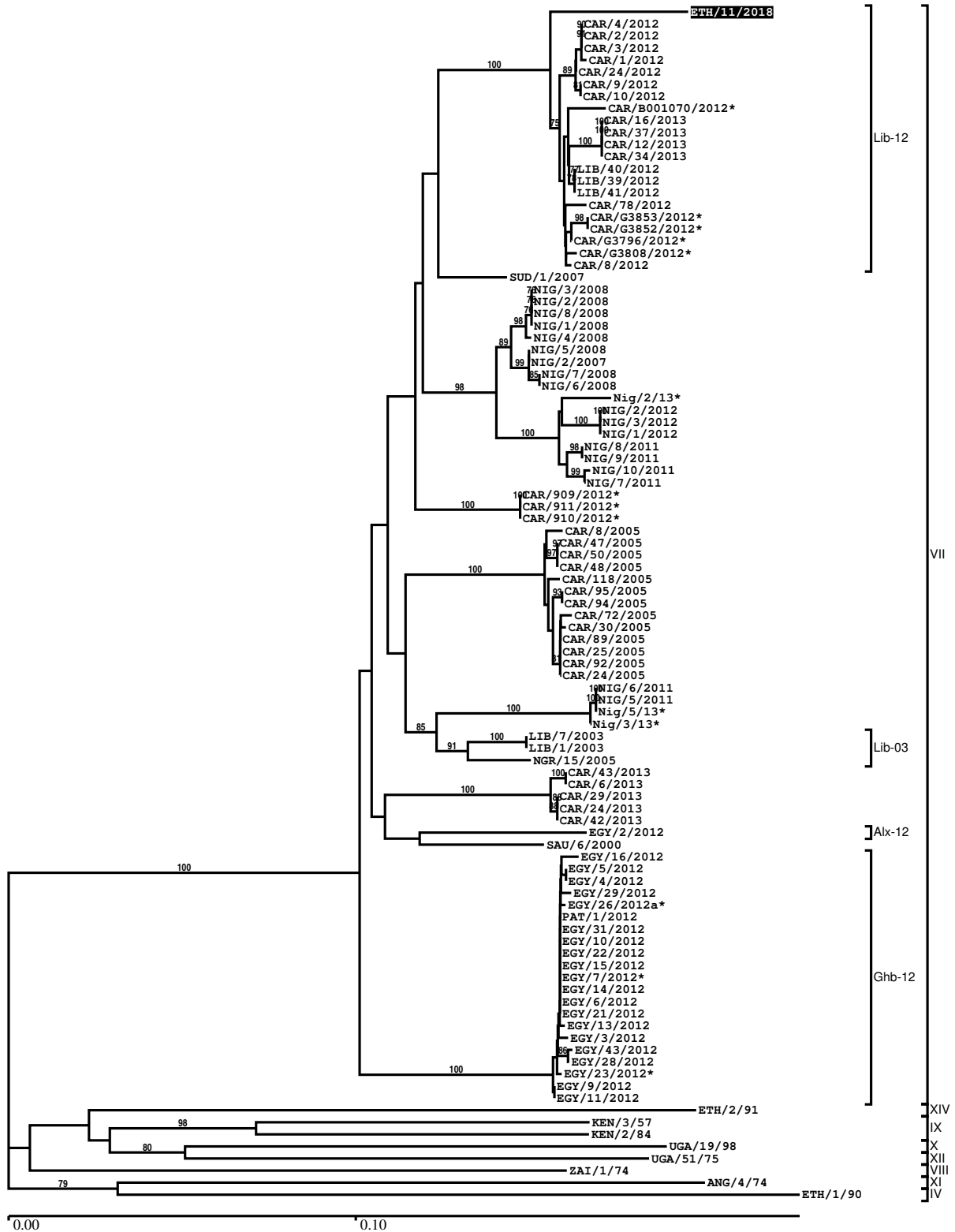
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_742	CAR/8/2005	cattle	87.4	0	SAT2	VII		
viba_424	SAU/6/2000	bovine	87.2	1	SAT2	VII		
viba_369	UGA/51/75	bovine	75.2	0	SAT2	XII		
viba_127	KEN/3/57		74.8	0	SAT2	IX		
viba_470	KEN/2/84	bovine	74.6	0	SAT2	IX		
viba_374	ZAI/1/74		73.6	0	SAT2	VIII		
viba_756	UGA/19/98		73.1	0	SAT2	X		
viba_724	ETH/2/91	bovine	72.9	0	SAT2	XIV		
viba_273	ETH/1/90	bovine	72.9	0	SAT2	IV		
viba_642	ANG/4/74		72.7	0	SAT2	XI		

Report on FMDV SAT2 in Ethiopia in 2018

Batch: WRLFMD/2018/00009



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_SAT2
Query sequence set:	WRLFMD/2018/00009-Ethiopia-SAT2 (1 sequences)
Sequence database set:	allseqs_SAT2 (854 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
ETH/11/2018	n/a	cattle	WRLFMD	Ethiopia	VII/Lib-12
CAR/4/2012	KX266286	n/a	WRLFMD	Cameroon	VII/Lib-12
CAR/2/2012	KX266284	n/a	WRLFMD	Cameroon	VII/Lib-12
CAR/3/2012	KX266285	n/a	WRLFMD	Cameroon	VII/Lib-12
CAR/1/2012	KX266283	n/a	WRLFMD	Cameroon	VII/Lib-12
CAR/24/2012	KX266290	bovine	WRLFMD	Cameroon	VII/Lib-12
CAR/9/2012	KX266288	n/a	WRLFMD	Cameroon	VII/Lib-12
CAR/10/2012	KX266289	n/a	WRLFMD	Cameroon	VII/Lib-12
CAR/B001070/2012*	KY581675	n/a	PIADC	Cameroon	VII/Lib-12
CAR/16/2013	n/a	cattle	WRLFMD	Cameroon	VII/Lib-12
CAR/37/2013	n/a	cattle	WRLFMD	Cameroon	VII/Lib-12
CAR/12/2013	n/a	cattle	WRLFMD	Cameroon	VII/Lib-12
CAR/34/2013	n/a	cattle	WRLFMD	Cameroon	VII/Lib-12
LIB/40/2012	JX570634	cattle	WRLFMD	Libya	VII/Lib-12
LIB/39/2012	JX570633	cattle	WRLFMD	Libya	VII/Lib-12
LIB/41/2012	JX570635	cattle	WRLFMD	Libya	VII/Lib-12
CAR/78/2012	KX266291	bovine	WRLFMD	Cameroon	VII/Lib-12
CAR/G3853/2012*	KY581671	n/a	PIADC	Cameroon	VII/Lib-12
CAR/G3852/2012*	KY581672	n/a	PIADC	Cameroon	VII/Lib-12
CAR/G3796/2012*	KY581674	n/a	PIADC	Cameroon	VII/Lib-12
CAR/G3808/2012*	KY581673	n/a	PIADC	Cameroon	VII/Lib-12
CAR/8/2012	KX266287	n/a	WRLFMD	Cameroon	VII/Lib-12
SUD/1/2007	GU566071	cattle	WRLFMD	Sudan	VII
NIG/3/2008	KX258078	cattle	WRLFMD	Nigeria	VII
NIG/2/2008	KX258077	cattle	WRLFMD	Nigeria	VII
NIG/8/2008	KX258083	cattle	WRLFMD	Nigeria	VII
NIG/1/2008	KX258076	cattle	WRLFMD	Nigeria	VII
NIG/4/2008	KX258079	cattle	WRLFMD	Nigeria	VII
NIG/5/2008	KX258080	cattle	WRLFMD	Nigeria	VII
NIG/2/2007	JX570636	cattle	WRLFMD	Nigeria	VII
NIG/7/2008	KX258082	cattle	WRLFMD	Nigeria	VII
NIG/6/2008	KX258081	cattle	WRLFMD	Nigeria	VII
Nig/2/13*	MF624359	bovine	CODA-CERVA	Nigeria	VII
NIG/2/2012	KX258095	bovine	WRLFMD	Nigeria	VII
NIG/3/2012	KX258096	bovine	WRLFMD	Nigeria	VII
NIG/1/2012	KX258094	bovine	WRLFMD	Nigeria	VII

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label	accession	host(s)	lab	country	taxonomic information
NIG/8/2011	KX258087	bovine	WRLFMD	Nigeria	VII
NIG/9/2011	KX258088	bovine	WRLFMD	Nigeria	VII
NIG/10/2011	KX258089	bovine	WRLFMD	Nigeria	VII
NIG/7/2011	KX258086	bovine	WRLFMD	Nigeria	VII
CAR/909/2012*	KU720582	cattle	PIADC	Cameroon	VII
CAR/911/2012*	KU720584	cattle	PIADC	Cameroon	VII
CAR/910/2012*	KU720583	cattle	PIADC	Cameroon	VII
CAR/8/2005	JX570616	cattle	WRLFMD	Cameroon	VII
CAR/47/2005	KX258151	cattle	WRLFMD	Cameroon	VII
CAR/50/2005	KX258153	cattle	WRLFMD	Cameroon	VII
CAR/48/2005	KX258152	cattle	WRLFMD	Cameroon	VII
CAR/118/2005	KX258183	cattle	WRLFMD	Cameroon	VII
CAR/95/2005	KX258173	cattle	WRLFMD	Cameroon	VII
CAR/94/2005	KX258172	cattle	WRLFMD	Cameroon	VII
CAR/72/2005	KX258164	cattle	WRLFMD	Cameroon	VII
CAR/30/2005	KX258144	cattle	WRLFMD	Cameroon	VII
CAR/89/2005	KX258170	cattle	WRLFMD	Cameroon	VII
CAR/25/2005	KX258143	cattle	WRLFMD	Cameroon	VII
CAR/92/2005	KX258171	cattle	WRLFMD	Cameroon	VII
CAR/24/2005	KX258142	cattle	WRLFMD	Cameroon	VII
NIG/6/2011	KX258085	bovine	WRLFMD	Nigeria	VII
NIG/5/2011	KX258084	bovine	WRLFMD	Nigeria	VII
Nig/5/13*	MF624360	bovine	CODA-CERVA	Nigeria	VII
Nig/3/13*	MF624358	bovine	CODA-CERVA	Nigeria	VII
LIB/7/2003	JX570632	n/a	WRLFMD	Libya	VII/Lib-03
LIB/1/2003	JX570631	n/a	WRLFMD	Libya	VII/Lib-03
NGR/15/2005	KF112960	cattle	WRLFMD	Niger	VII/Lib-03
CAR/43/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/6/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/29/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/24/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/42/2013	n/a	cattle	WRLFMD	Cameroon	VII
EGY/2/2012	JX570617	n/a	WRLFMD	Egypt	VII/Aix-12
SAU/6/2000	AF367135	bovine	OVI	Saudi Arabia	VII
EGY/16/2012	KF112931	water buffalo	WRLFMD	Egypt	VII/Ghb-12
EGY/5/2012	JX570620	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/4/2012	JX570619	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/29/2012	KF112936	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/26/2012a*	JX013979	water buffalo	n/a	Egypt	VII/Ghb-12
PAT/1/2012	JX570637	cattle	WRLFMD	Palestinian AT	VII/Ghb-12
EGY/31/2012	KF112937	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/10/2012	JX570623	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/22/2012	KF112934	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/15/2012	JX570627	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/7/2012*	JX013978	water buffalo	n/a	Egypt	VII/Ghb-12
EGY/14/2012	JX570626	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/6/2012	JX570621	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/21/2012	KF112933	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/13/2012	JX570625	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/3/2012	JX570618	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/43/2012	KX258063	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/28/2012	KF112935	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/23/2012*	JX013980	cattle	n/a	Egypt	VII/Ghb-12
EGY/9/2012	JX570622	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/11/2012	JX570624	n/a	WRLFMD	Egypt	VII/Ghb-12
ETH/2/91	AY343938	bovine	OVI	Ethiopia	XIV
KEN/3/57	AJ251473	n/a	WRLFMD	Kenya	IX
KEN/2/84	AY343941	bovine	OVI	Kenya	IX
UGA/19/98	AY343969	n/a	OVI	Uganda	X
UGA/51/75	AY343963	bovine	OVI	Uganda	XII
ZAI/1/74	DQ009737	n/a	OVI	Zaire	VIII
ANG/4/74	AF479417	n/a	OVI	Angola	XI
ETH/1/90	AY343935	bovine	OVI	Ethiopia	IV

*, not a WRLFMD Reference Number

n/a, not available