

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

Genotyping Report

FMDV serotype: SAT2
Country: Egypt
Year: 2015
Batch: WRLFMD/2016/00024
No. of sequences: 1
Report date: 3rd August 2016
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska

Analysis Parameters

VP1 subsequence extractor: vp1_SAT2
Query sequence set: WRLFMD/2016/00024-Egypt-SAT2 (1 sequences)
Sequence database set: !allseqs_SAT2 (822 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

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Virus sample name:	EGY/5/2015
Sender reference:	1. RL /41
Location of origin:	Elmahmodia, Somesta, Beni Suef
Country of origin:	Egypt
Date of collection:	26/07/2015
Host species:	cattle
Serotype:	SAT2
Topotype:	VII
Lineage:	Alx-12
Sublineage:	
Sequence length:	642
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	13/07/2016
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 29657, genome 29658, sequence viba_29659, sequencing info 29660

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_29811	SUD/3/2013	cattle	95.8	0	SAT2	VII	Alx-12	
viba_23610	EGY/24/2014	cattle	95.6	0	SAT2	VII	Alx-12	
viba_29823	SUD/4/2014	cattle	95.6	0	SAT2	VII	Alx-12	
viba_29815	SUD/5/2013	cattle	95.5	0	SAT2	VII	Alx-12	
viba_29827	SUD/7/2014	cattle	95.5	0	SAT2	VII	Alx-12	
viba_23606	EGY/22/2014	cattle	95.3	0	SAT2	VII	Alx-12	
viba_23602	EGY/20/2014	cattle	95.3	0	SAT2	VII	Alx-12	
viba_29819	SUD/9/2013	cattle	95.3	0	SAT2	VII	Alx-12	
viba_29831	SUD/11/2014	cattle	95.2	0	SAT2	VII	Alx-12	
viba_23598	EGY/11/2014	cattle	95.0	0	SAT2	VII	Alx-12	

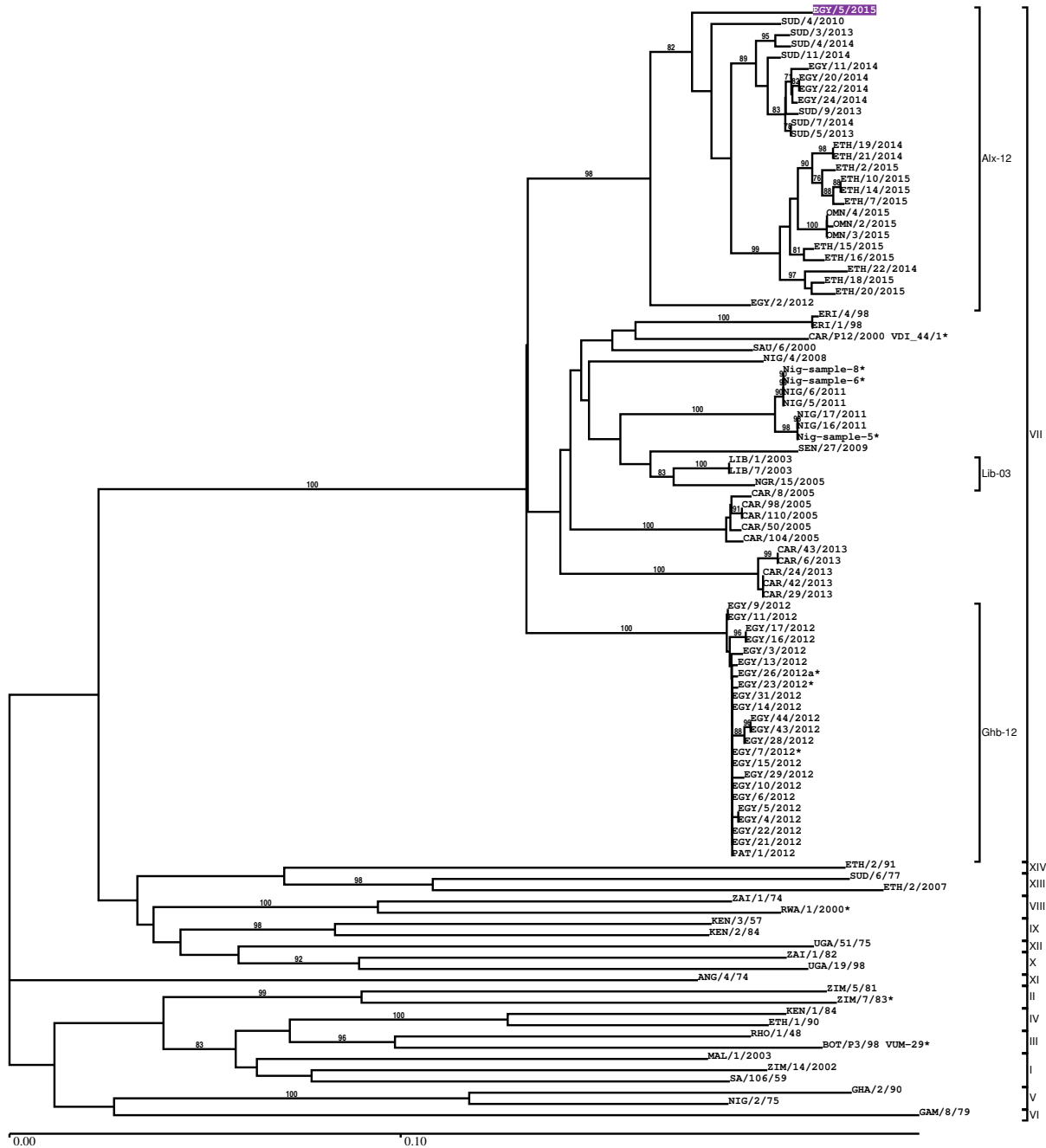
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_424	SAU/6/2000	bovine	91.1	1	SAT2	VII		
viba_742	CAR/8/2005	cattle	86.6	0	SAT2	VII		
viba_456	ZAI/1/82	bovine	75.0	1	SAT2	X		
viba_127	KEN/3/57		74.4	0	SAT2	IX		
viba_470	KEN/2/84	bovine	74.1	0	SAT2	IX		
viba_756	UGA/19/98		73.3	0	SAT2	X		
viba_369	UGA/51/75	bovine	72.7	0	SAT2	XII		
viba_273	ETH/1/90	bovine	72.7	0	SAT2	IV		
viba_374	ZAI/1/74		72.4	0	SAT2	VIII		
viba_189	RWA/1/2000		72.3	0	SAT2	VIII		

Report on FMDV SAT2 in Egypt in 2015

Batch: WRLFMD/2016/00024



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
EGY/5/2015	n/a	cattle	WRLFMD	Egypt	VII/Alx-12
SUD/4/2010	KF112968	cattle	WRLFMD	Sudan	VII/Alx-12
SUD/3/2013	n/a	cattle	WRLFMD	Sudan	VII/Alx-12
SUD/4/2014	n/a	cattle	WRLFMD	Sudan	VII/Alx-12
SUD/11/2014	n/a	cattle	WRLFMD	Sudan	VII/Alx-12
EGY/11/2014	KX258064	cattle	WRLFMD	Egypt	VII/Alx-12
EGY/20/2014	KX258065	cattle	WRLFMD	Egypt	VII/Alx-12
EGY/22/2014	KX258066	cattle	WRLFMD	Egypt	VII/Alx-12
EGY/24/2014	KX258067	cattle	WRLFMD	Egypt	VII/Alx-12
SUD/9/2013	n/a	cattle	WRLFMD	Sudan	VII/Alx-12
SUD/7/2014	n/a	cattle	WRLFMD	Sudan	VII/Alx-12
SUD/5/2013	n/a	cattle	WRLFMD	Sudan	VII/Alx-12
ETH/19/2014	KX258068	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/21/2014	KX258069	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/2/2015	KX258071	cattle	WRLFMD	Ethiopia	VII/Alx-12
ETH/10/2015	n/a	caprine	WRLFMD	Ethiopia	VII/Alx-12
ETH/14/2015	n/a	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/7/2015	n/a	bovine	WRLFMD	Ethiopia	VII/Alx-12
OMN/4/2015	n/a	cattle	WRLFMD	Oman	VII/Alx-12
OMN/2/2015	n/a	cattle	WRLFMD	Oman	VII/Alx-12
OMN/3/2015	n/a	cattle	WRLFMD	Oman	VII/Alx-12
ETH/15/2015	n/a	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/16/2015	n/a	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/22/2014	KX258070	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/18/2015	n/a	bovine	WRLFMD	Ethiopia	VII/Alx-12
ETH/20/2015	n/a	bovine	WRLFMD	Ethiopia	VII/Alx-12
EGY/2/2012	JX570617	n/a	WRLFMD	Egypt	VII/Alx-12
ERI/4/98	AY343934	n/a	OVI	Eritrea	VII
ERI/1/98	AY343933	n/a	OVI	Eritrea	VII
CAR/P12/2000 VDI_44/1*	HM211082	n/a	WRLFMD	Cameroon	VII
SAU/6/2000	AF367135	bovine	OVI	Saudi Arabia	VII
NIG/4/2008	KX258079	cattle	WRLFMD	Nigeria	VII
Nig-sample-8*	n/a	n/a	ANSES	Nigeria	VII
Nig-sample-6*	n/a	n/a	ANSES	Nigeria	VII
NIG/6/2011	KX258085	bovine	WRLFMD	Nigeria	VII
NIG/5/2011	KX258084	bovine	WRLFMD	Nigeria	VII
NIG/17/2011	KX258093	bovine	WRLFMD	Nigeria	VII
NIG/16/2011	KX258092	bovine	WRLFMD	Nigeria	VII
Nig-sample-5*	n/a	n/a	ANSES	Nigeria	VII
SEN/27/2009	KF112967	cattle	WRLFMD	Senegal	VII
LIB/1/2003	JX570631	n/a	WRLFMD	Libya	VII/Lib-03
LIB/7/2003	JX570632	n/a	WRLFMD	Libya	VII/Lib-03
NGR/15/2005	KF112960	cattle	WRLFMD	Niger	VII/Lib-03
CAR/8/2005	JX570616	cattle	WRLFMD	Cameroon	VII
CAR/98/2005	KX258174	cattle	WRLFMD	Cameroon	VII
CAR/110/2005	KX258181	cattle	WRLFMD	Cameroon	VII
CAR/50/2005	KX258153	cattle	WRLFMD	Cameroon	VII
CAR/104/2005	KX258176	cattle	WRLFMD	Cameroon	VII
CAR/43/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/6/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/24/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/42/2013	n/a	cattle	WRLFMD	Cameroon	VII
CAR/29/2013	n/a	cattle	WRLFMD	Cameroon	VII
EGY/9/2012	JX570622	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/11/2012	JX570624	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/17/2012	KF112932	water buffalo	WRLFMD	Egypt	VII/Ghb-12
EGY/16/2012	KF112931	water buffalo	WRLFMD	Egypt	VII/Ghb-12
EGY/3/2012	JX570618	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/13/2012	JX570625	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/26/2012a*	JX013979	water buffalo	n/a	Egypt	VII/Ghb-12

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label	accession	host(s)	lab	country	taxonomic information
EGY/23/2012*	JX013980	cattle	n/a	Egypt	VII/Ghb-12
EGY/31/2012	KF112937	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/14/2012	JX570626	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/44/2012	n/a	cattle	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/7/2012*	JX013978	water buffalo	n/a	Egypt	VII/Ghb-12
EGY/15/2012	JX570627	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/29/2012	KF112936	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/10/2012	JX570623	n/a	WRLFMD	Egypt	VII/Ghb-12
EGY/6/2012	JX570621	n/a	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/22/2012	KF112934	cattle	WRLFMD	Egypt	VII/Ghb-12
EGY/21/2012	KF112933	cattle	WRLFMD	Egypt	VII/Ghb-12
PAT/1/2012	JX570637	cattle	WRLFMD	Palestinian AT	VII/Ghb-12
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
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
ANG/4/74	AF479417	n/a	OVI	Angola	XI
ZIM/5/81	EF134951	bovine	WRLFMD	Zimbabwe	II
ZIM/7/83*	AF136607	bovine	OVI	Zimbabwe	II
KEN/1/84	AY344505	bovine	OVI	Kenya	IV
ETH/1/90	AY343935	bovine	OVI	Ethiopia	IV
RHO/1/48	AY593847	n/a	PIADC	Rhodesia	III
BOT/P3/98 VUM-29*	AF367124	african buffalo	OVI	Botswana	III
MAL/1/2003	n/a	bovine	WRLFMD	Malawi	I
ZIM/14/2002	KF219689	bovine	WRLFMD	Zimbabwe	I
SA/106/59	AY593848	n/a	PIADC	South Africa (SA)	I
GHA/2/90	AF479415	bovine	OVI	Ghana	V
NIG/2/75	AF367139	bovine	OVI	Nigeria	V
GAM/8/79	AF479410	bovine	OVI	Gambia	VI

*, not a WRLFMD Reference Number

n/a, not available