

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

## Genotyping Report

FMDV serotype: A  
Country: Egypt  
Year: 2018  
Batch: WRLFMD/2019/00005  
No. of sequences: 1  
Report date: 27th February 2019  
Report generated by: Jemma Wadsworth  
Report checked by: Nick Knowles



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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:	EGY/2/2018
Sender reference:	(34) RL/39
Location of origin:	Zayan, Gamasa, Dakahlia
Country of origin:	Egypt
Date of collection:	04/02/2018
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	08/02/2019
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	22/02/2019
Created:	27/02/2019
Last updated:	27/02/2019
VIBASys IDs: sample 40210, genome 40211, sequence viba_40212, sequencing info 40213	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_35473	Beni-suef 1/Egy/2017		98.4	0	A	AFRICA	G-IV	
viba_34155	EGY/19/2016	cattle	98.3	0	A	AFRICA	G-IV	
viba_39545	Egy/Faiyum/2016	cattle	98.3	0	A	AFRICA	G-IV	
viba_30358	Ismailia 4/Egy/2016	cattle	97.5	0	A	AFRICA	G-IV	
viba_30354	Ismailia 3/Egy/2016	cattle	97.5	0	A	AFRICA	G-IV	
viba_30350	Ismailia 2/Egy/2016	cattle	97.5	0	A	AFRICA	G-IV	
viba_29562	EGY/3/2016	cattle	97.5	0	A	AFRICA	G-IV	
viba_29558	EGY/8/2015	cattle	97.5	0	A	AFRICA	G-IV	
viba_30362	Giza 1/Egy/2016	cattle	97.5	0	A	AFRICA	G-IV	
viba_30346	Ismailia 1/Egy/2016	cattle	97.3	0	A	AFRICA	G-IV	

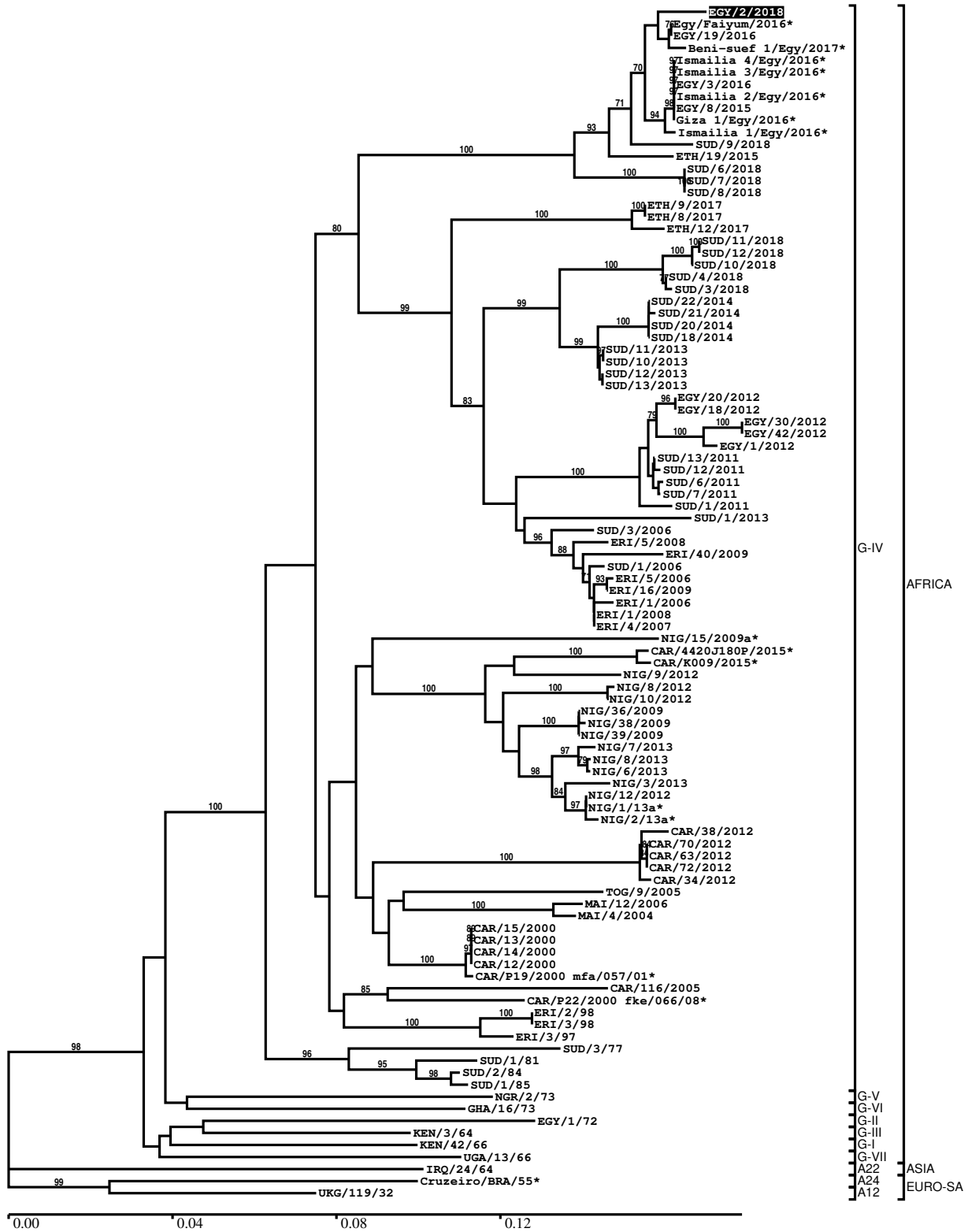
#### Most Closely Related Prototype Sequences

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_178	SUD/3/77		83.8	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		83.5	0	A	AFRICA	G-I	
viba_535	NGR/2/73	bovine	82.9	0	A	AFRICA	G-V	
viba_609	GHA/16/73	bovine	81.9	0	A	AFRICA	G-VI	
viba_688	EGY/1/72	bovine	81.8	0	A	AFRICA	G-II	
viba_173	UGA/13/66	bovine	81.3	0	A	AFRICA	G-VII	
viba_677	IRQ/24/64	bovine	81.0	0	A	ASIA	A22	
viba_785	KEN/3/64		81.0	0	A	AFRICA	G-III	
viba_699	UKG/119/32		80.5	0	A	EURO-SA	A12	
viba_217	Cruzeiro/BRA/55	bovine	79.7	0	A	EURO-SA	A24	

Report on FMDV A in Egypt in 2018

Batch: WRLFMD/2019/00005



\*, not a WRLFMD Reference Number

## Analysis Parameters

VP1 subsequence extractor: vp1\_A  
 Query sequence set: WRLFMD/2019/00005-Egypt-A (1 sequences)  
 Sequence database set: allseqs\_A (1957 sequences)  
 Prototype sequence set: !prototypes\_A (40 sequences)  
 Number of related sequences reported: 10  
 Minimal VP1 subsequence match length: 600  
 Sequence alignment method: muscle (default parameters)  
 Sequence alignment length: 633  
 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/A

label	accession	host(s)	lab	country	taxonomic information
EGY/2/2018	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
Egy/Faiyum/2016*	MG552843	cattle	AHRI	Egypt	AFRICA/G-IV
EGY/19/2016	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
Beni-suef 1/Egy/2017*	MF322693	n/a	MEVAC	Egypt	AFRICA/G-IV
Ismailia 4/Egy/2016*	KX446999	cattle	Suez Canal Univ	Egypt	AFRICA/G-IV
Ismailia 3/Egy/2016*	KX446998	cattle	Suez Canal Univ	Egypt	AFRICA/G-IV
EGY/3/2016	MK422574	cattle	WRLFMD	Egypt	AFRICA/G-IV
Ismailia 2/Egy/2016*	KX446997	cattle	Suez Canal Univ	Egypt	AFRICA/G-IV
EGY/8/2015	MK422573	cattle	WRLFMD	Egypt	AFRICA/G-IV
Giza 1/Egy/2016*	KX447000	cattle	Suez Canal Univ	Egypt	AFRICA/G-IV
Ismailia 1/Egy/2016*	KX446996	cattle	Suez Canal Univ	Egypt	AFRICA/G-IV
SUD/9/2018	MK422594	cattle	WRLFMD	Sudan	AFRICA/G-IV
ETH/19/2015	n/a	bovine	WRLFMD	Ethiopia	AFRICA/G-IV
SUD/6/2018	MK422591	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/7/2018	MK422592	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/8/2018	MK422593	cattle	WRLFMD	Sudan	AFRICA/G-IV
ETH/9/2017	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/8/2017	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/12/2017	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
SUD/11/2018	MK422596	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/12/2018	MK422597	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/10/2018	MK422595	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/4/2018	MK422590	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/3/2018	MK422589	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/22/2014	MK422588	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/21/2014	MK422587	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/20/2014	MK422586	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/18/2014	MK422585	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/11/2013	MK422582	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/10/2013	MK422581	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/12/2013	MK422583	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/13/2013	MK422584	cattle	WRLFMD	Sudan	AFRICA/G-IV

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label	accession	host(s)	lab	country	taxonomic information
EGY/20/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/18/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/30/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/42/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/1/2012	MK422572	n/a	WRLFMD	Egypt	AFRICA/G-IV
SUD/13/2011	MK422578	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/12/2011	MK422579	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/6/2011	MK422576	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/7/2011	MK422577	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/1/2011	MK422575	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/1/2013	MK422580	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/3/2006	GU566070	cattle	WRLFMD	Sudan	AFRICA/G-IV
ERI/5/2008	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/40/2009	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
SUD/1/2006	GU566069	cattle	WRLFMD	Sudan	AFRICA/G-IV
ERI/5/2006	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/16/2009	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/1/2006	KX258046	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/1/2008	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/4/2007	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
NIG/15/2009a*	JN680723	cattle	PIADC	Nigeria	AFRICA/G-IV
CAR/4420J180P/2015*	MG873198	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/K009/2015*	MG873207	cattle	PIADC	Cameroon	AFRICA/G-IV
NIG/9/2012	KX258055	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/8/2012	KX258054	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/10/2012	KX258056	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/36/2009	KX258050	cattle	WRLFMD	Nigeria	AFRICA/G-IV
NIG/38/2009	KX258051	cattle	WRLFMD	Nigeria	AFRICA/G-IV
NIG/39/2009	KX258052	cattle	WRLFMD	Nigeria	AFRICA/G-IV
NIG/7/2013	KX258060	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/8/2013	KX258061	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/6/2013	KX258059	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/3/2013	KX258058	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/12/2012	KX258057	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/1/13a*	KY584070	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/2/13a*	KY584071	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
CAR/38/2012	KX266276	bovine	WRLFMD	Cameroon	AFRICA/G-IV
CAR/70/2012	KX266281	bovine	WRLFMD	Cameroon	AFRICA/G-IV
CAR/63/2012	KX266280	bovine	WRLFMD	Cameroon	AFRICA/G-IV
CAR/72/2012	KX266282	bovine	WRLFMD	Cameroon	AFRICA/G-IV
CAR/34/2012	KX266275	bovine	WRLFMD	Cameroon	AFRICA/G-IV
TOG/9/2005	KX258062	cattle	WRLFMD	Togo	AFRICA/G-IV
MAI/12/2006	KX258048	n/a	WRLFMD	Mali	AFRICA/G-IV
MAI/4/2004	KX258047	cattle	WRLFMD	Mali	AFRICA/G-IV
CAR/15/2000	EF208755	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/13/2000	KX258131	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/14/2000	KX258132	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/12/2000	KX258130	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/P19/2000 mfa/057/01*	n/a	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/116/2005	KX258135	cattle	WRLFMD	Cameroon	AFRICA/G-IV
CAR/P22/2000 fke/066/08*	n/a	n/a	WRLFMD	Cameroon	AFRICA/G-IV
ERI/2/98	KX258044	n/a	WRLFMD	Eritrea	AFRICA/G-IV
ERI/3/98	KX258045	n/a	WRLFMD	Eritrea	AFRICA/G-IV
ERI/3/97	KX258043	n/a	WRLFMD	Eritrea	AFRICA/G-IV
SUD/3/77	GU566064	n/a	WRLFMD	Sudan	AFRICA/G-IV
SUD/1/81	GU566065	n/a	WRLFMD	Sudan	AFRICA/G-IV
SUD/2/84	GU566067	n/a	WRLFMD	Sudan	AFRICA/G-IV
SUD/1/85	GU566068	n/a	WRLFMD	Sudan	AFRICA/G-IV
NGR/2/73	KF561704	bovine	WRLFMD	Niger	AFRICA/G-V
GHA/16/73	KF561698	bovine	WRLFMD	Ghana	AFRICA/G-VI
EGY/1/72	EF208756	bovine	WRLFMD	Egypt	AFRICA/G-II
KEN/3/64	AY593761	n/a	PIADC	Kenya	AFRICA/G-III
KEN/42/66	KF561699	n/a	WRLFMD	Kenya	AFRICA/G-I
UGA/13/66	KF561705	bovine	WRLFMD	Uganda	AFRICA/G-VII
IRQ/24/64	AY593763	bovine	PIADC	Iraq	ASIA/A22
Cruzeiro/BRA/55*	AY593768	bovine	PIADC	Brazil	EURO-SA/A24

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<b>label</b>	<b>accession</b>	<b>host(s)</b>	<b>lab</b>	<b>country</b>	<b>taxonomic information</b>
UKG/119/32	M10975	n/a	PIADC	United Kingdom	EURO-SA/A12

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\*, not a WRLFMD Reference Number

n/a, not available