

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

Genotyping Report

FMDV serotype: O
Country: Sudan
Year: 2016, 2017
Batch: WRLFMD/2018/00020
No. of sequences: 7
Report date: 7th August 2018
Report generated by: Nick Knowles
Report checked by: Antonello Di Nardo



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Virus sample name:	SUD/1/2016
Sender reference:	1/2016
Location of origin:	Northern state-border control
Country of origin:	Sudan
Date of collection:	25/12/2016
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy2
Harvest date of material:	26/07/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	07/08/2018
VIBASys IDs: sample 37027, genome 37028, sequence viba_37029, sequencing info 37030	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34239	EGY/33/2017	cattle	99.8	0	O		EA-3	
viba_35505	Giza 1/Egy/2017		99.7	0	O		EA-3	
viba_34167	EGY/7/2017	cattle	99.7	0	O		EA-3	
viba_35497	Alexandria 1/Egy/2016		99.7	0	O		EA-3	
viba_34175	EGY/9/2017	cattle	99.7	0	O		EA-3	
viba_34183	EGY/11/2017	water buffalo	99.7	0	O		EA-3	
viba_35525	Behira 2/Egy/2017		99.7	0	O		EA-3	
viba_34211	EGY/25/2017	cattle	99.7	0	O		EA-3	
viba_34207	EGY/22/2017	water buffalo	99.7	0	O		EA-3	
viba_34215	EGY/26/2017	cattle	99.7	0	O		EA-3	

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_116	SUD/2/86	bovine	88.3	0	O		EA-3	
viba_854	ETH/1/2007	cattle	84.8	0	O		EA-3	
viba_617	IND/53/79	bovine	84.2	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	84.1	0	O		EA-3	
viba_221	MAL/1/98		84.0	0	O		EA-2	
viba_85	UGA/3/2002		83.8	0	O		EA-2	
viba_263	TAN/2/2004	bovine	83.8	0	O		EA-2	
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_523	K83/79		83.4	0	O		EA-1	

Virus sample name:	SUD/2/2017
Sender reference:	1/2017
Location of origin:	Khartoum-Kuku (Mahlab 3)
Country of origin:	Sudan
Date of collection:	04/01/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	25/07/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	04/08/2018
VIBASys IDs: sample 37031, genome 37032, sequence viba_37033, sequencing info 37034	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37049	SUD/7/2017	cattle	100.0	0	O	EA-3		
viba_37037	SUD/3/2017	cattle	100.0	0	O	EA-3		
viba_37029	SUD/1/2016	cattle	99.4	0	O	EA-3		
viba_34239	EGY/33/2017	cattle	99.2	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.1	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.1	0	O	EA-3		
viba_35497	Alexandria 1/Egy/2016		99.1	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.1	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.1	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.1	0	O	EA-3		

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_116	SUD/2/86	bovine	88.6	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.8	0	O	EA-3		
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_221	MAL/1/98		84.0	0	O	EA-2		
viba_85	UGA/3/2002		83.8	0	O	EA-2		
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_263	TAN/2/2004	bovine	83.5	0	O	EA-2		
viba_523	K83/79		83.1	0	O	EA-1		

Virus sample name:	SUD/3/2017
Sender reference:	2/2017
Location of origin:	Khartoum-Kuku (Mahlab 3)
Country of origin:	Sudan
Date of collection:	04/01/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	25/07/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	07/08/2018
VIBASys IDs: sample 37035, genome 37036, sequence viba_37037, sequencing info 37038	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37033	SUD/2/2017	cattle	100.0	0	O		EA-3	
viba_37049	SUD/7/2017	cattle	100.0	0	O		EA-3	
viba_37029	SUD/1/2016	cattle	99.4	0	O		EA-3	
viba_34239	EGY/33/2017	cattle	99.2	0	O		EA-3	
viba_35505	Giza 1/Egy/2017		99.1	0	O		EA-3	
viba_34167	EGY/7/2017	cattle	99.1	0	O		EA-3	
viba_35497	Alexandria 1/Egy/2016		99.1	0	O		EA-3	
viba_34175	EGY/9/2017	cattle	99.1	0	O		EA-3	
viba_34183	EGY/11/2017	water buffalo	99.1	0	O		EA-3	
viba_35525	Behira 2/Egy/2017		99.1	0	O		EA-3	

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_116	SUD/2/86	bovine	88.6	0	O		EA-3	
viba_854	ETH/1/2007	cattle	84.8	0	O		EA-3	
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	84.1	0	O		EA-3	
viba_221	MAL/1/98		84.0	0	O		EA-2	
viba_85	UGA/3/2002		83.8	0	O		EA-2	
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_263	TAN/2/2004	bovine	83.5	0	O		EA-2	
viba_523	K83/79		83.1	0	O		EA-1	

Virus sample name:	SUD/4/2017
Sender reference:	11/2017
Location of origin:	Khartoum-Al Rdwan
Country of origin:	Sudan
Date of collection:	09/01/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy2
Harvest date of material:	27/07/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	04/08/2018
VIBASys IDs: sample 37039, genome 37040, sequence viba_37041, sequencing info 37042	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37045	SUD/5/2017	cattle	99.7	0	O	EA-3		
viba_37029	SUD/1/2016	cattle	99.4	0	O	EA-3		
viba_34239	EGY/33/2017	cattle	99.2	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.1	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.1	0	O	EA-3		
viba_35497	Alexandria 1/Egy/2016		99.1	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.1	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.1	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.1	0	O	EA-3		
viba_34211	EGY/25/2017	cattle	99.1	0	O	EA-3		

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_116	SUD/2/86	bovine	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.2	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.4	0	O	EA-3		
viba_221	MAL/1/98		84.0	0	O	EA-2		
viba_285	UKG/35/2001	porcine	84.0	0	O	ME-SA	PanAsia	
viba_617	IND/53/79	bovine	83.9	0	O	ME-SA		
viba_85	UGA/3/2002		83.8	0	O	EA-2		
viba_263	TAN/2/2004	bovine	83.8	0	O	EA-2		
viba_359	Manisa/TUR/69		83.4	0	O	ME-SA		
viba_523	K83/79		83.3	0	O	EA-1		

Virus sample name:	SUD/5/2017
Sender reference:	3/2017
Location of origin:	Khartoum-Al Rdwan (No. 1)
Country of origin:	Sudan
Date of collection:	07/02/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	25/07/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	04/08/2018
VIBASys IDs: sample 37043, genome 37044, sequence viba_37045, sequencing info 37046	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37041	SUD/4/2017	cattle	99.7	0	O		EA-3	
viba_37029	SUD/1/2016	cattle	99.4	0	O		EA-3	
viba_34239	EGY/33/2017	cattle	99.2	0	O		EA-3	
viba_35536	Fayoum 3/Egy/2017		99.2	0	O		EA-3	
viba_35528	Fayoum 1/Egy/2017		99.1	0	O		EA-3	
viba_35505	Giza 1/Egy/2017		99.1	0	O		EA-3	
viba_34167	EGY/7/2017	cattle	99.1	0	O		EA-3	
viba_35497	Alexandria 1/Egy/2016		99.1	0	O		EA-3	
viba_34175	EGY/9/2017	cattle	99.1	0	O		EA-3	
viba_34183	EGY/11/2017	water buffalo	99.1	0	O		EA-3	

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_116	SUD/2/86	bovine	88.0	0	O		EA-3	
viba_854	ETH/1/2007	cattle	85.0	0	O		EA-3	
viba_408	ETH/3/2004	cattle	84.3	0	O		EA-3	
viba_221	MAL/1/98		84.0	0	O		EA-2	
viba_617	IND/53/79	bovine	83.6	0	O		ME-SA	
viba_285	UKG/35/2001	porcine	83.6	0	O		ME-SA	PanAsia
viba_85	UGA/3/2002		83.5	0	O		EA-2	
viba_263	TAN/2/2004	bovine	83.5	0	O		EA-2	
viba_523	K83/79		83.3	0	O		EA-1	
viba_359	Manisa/TUR/69		83.1	0	O		ME-SA	

Virus sample name:	SUD/7/2017
Sender reference:	5/2017
Location of origin:	Khartoum-Al Rdwan (No. 3)
Country of origin:	Sudan
Date of collection:	07/02/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	25/07/2018
Primers:	SAT2-1C445F/SAT-2B208R; SAT2-P1-1223F/SAT-2B208R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	07/08/2018
VIBASys IDs: sample 37047, genome 37048, sequence viba_37049, sequencing info 37050	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37033	SUD/2/2017	cattle	100.0	0	O		EA-3	
viba_37037	SUD/3/2017	cattle	100.0	0	O		EA-3	
viba_37029	SUD/1/2016	cattle	99.4	0	O		EA-3	
viba_34239	EGY/33/2017	cattle	99.2	0	O		EA-3	
viba_35505	Giza 1/Egy/2017		99.1	0	O		EA-3	
viba_34167	EGY/7/2017	cattle	99.1	0	O		EA-3	
viba_35497	Alexandria 1/Egy/2016		99.1	0	O		EA-3	
viba_34175	EGY/9/2017	cattle	99.1	0	O		EA-3	
viba_34183	EGY/11/2017	water buffalo	99.1	0	O		EA-3	
viba_35525	Behira 2/Egy/2017		99.1	0	O		EA-3	

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_116	SUD/2/86	bovine	88.6	0	O		EA-3	
viba_854	ETH/1/2007	cattle	84.8	0	O		EA-3	
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	84.1	0	O		EA-3	
viba_221	MAL/1/98		84.0	0	O		EA-2	
viba_85	UGA/3/2002		83.8	0	O		EA-2	
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_263	TAN/2/2004	bovine	83.5	0	O		EA-2	
viba_523	K83/79		83.1	0	O		EA-1	

Virus sample name:	SUD/15/2017
Sender reference:	9/2017
Location of origin:	Khartoum-Al Aelfon (No. 2)
Country of origin:	Sudan
Date of collection:	04/06/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	27/07/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	02/08/2018
Created:	04/08/2018
Last updated:	07/08/2018
VIBASys IDs: sample 37051, genome 37052, sequence viba_37053, sequencing info 37054	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37029	SUD/1/2016	cattle	99.5	0	O		EA-3	
viba_34239	EGY/33/2017	cattle	99.4	0	O		EA-3	
viba_35505	Giza 1/Egy/2017		99.2	0	O		EA-3	
viba_34167	EGY/7/2017	cattle	99.2	0	O		EA-3	
viba_35497	Alexandria 1/Egy/2016		99.2	0	O		EA-3	
viba_34175	EGY/9/2017	cattle	99.2	0	O		EA-3	
viba_34183	EGY/11/2017	water buffalo	99.2	0	O		EA-3	
viba_35525	Behira 2/Egy/2017		99.2	0	O		EA-3	
viba_34211	EGY/25/2017	cattle	99.2	0	O		EA-3	
viba_34207	EGY/22/2017	water buffalo	99.2	0	O		EA-3	

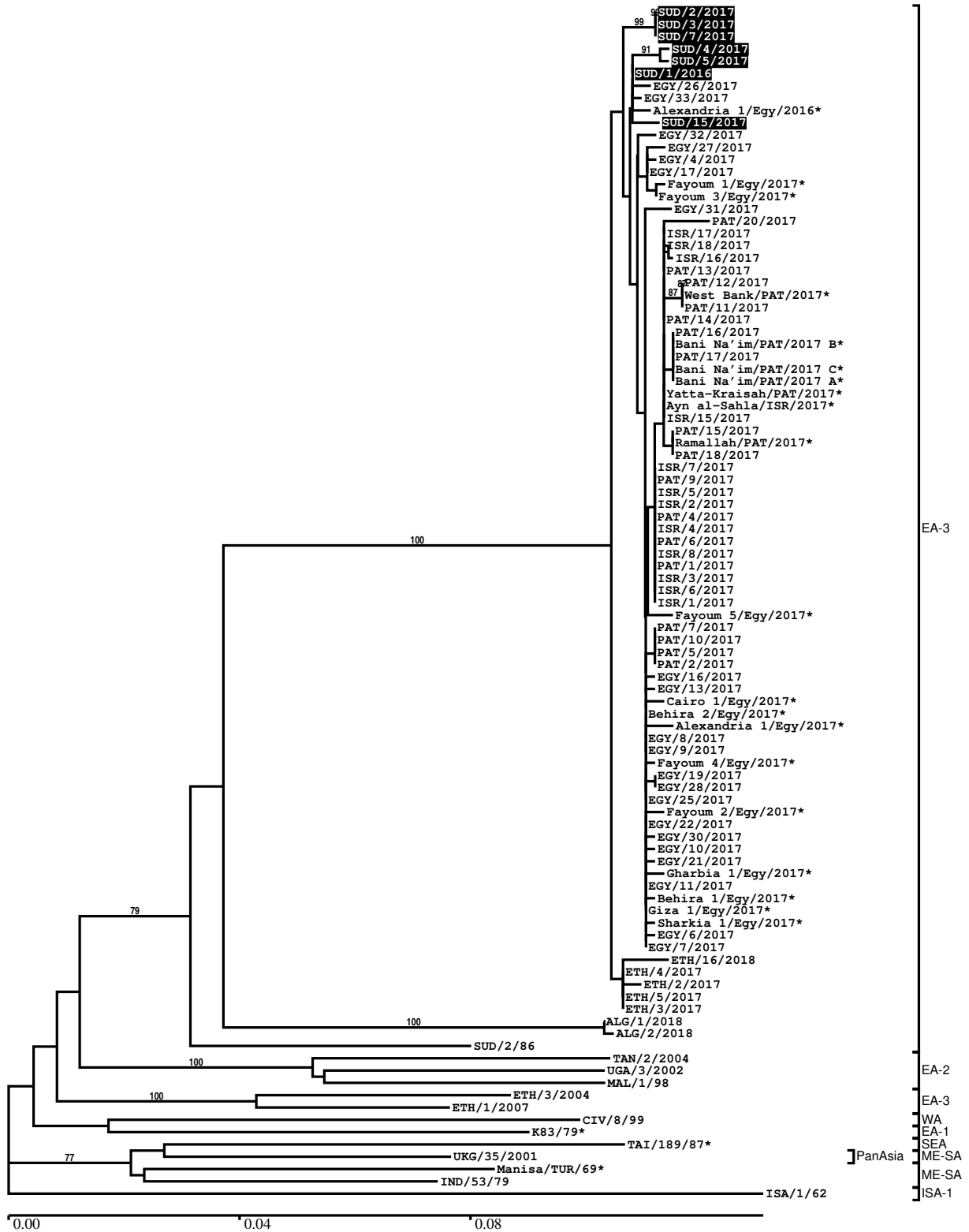
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_116	SUD/2/86	bovine	87.8	0	O		EA-3	
viba_854	ETH/1/2007	cattle	84.4	0	O		EA-3	
viba_221	MAL/1/98		84.0	0	O		EA-2	
viba_617	IND/53/79	bovine	83.8	0	O		ME-SA	
viba_408	ETH/3/2004	cattle	83.8	0	O		EA-3	
viba_285	UKG/35/2001	porcine	83.6	0	O		ME-SA	PanAsia
viba_85	UGA/3/2002		83.6	0	O		EA-2	
viba_263	TAN/2/2004	bovine	83.6	0	O		EA-2	
viba_359	Manisa/TUR/69		83.1	0	O		ME-SA	
viba_302	CIV/8/99	bovine	83.0	0	O		WA	

Report on FMDV O in Sudan in 2016, 2017

Batch: WRLFMD/2018/00020



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor: vp1_O
 Query sequence set: WRLFMD/2018/00020-Sudan-O (7 sequences)
 Sequence database set: allseqs_O (3830 sequences)
 Prototype sequence set: !prototypes_O (48 sequences)
 Number of related sequences reported: 10
 Minimal VP1 subsequence match length: 600
 Sequence alignment method: muscle (default parameters)
 Sequence alignment length: 636
 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: 11
 VIBASys version: reflabs-1.1.2

Sequences in the Phylogenetic Tree

All sequences in the tree are in taxonomic group FMDV/O

label	accession	host(s)	lab	country	taxonomic information
SUD/2/2017	n/a	cattle	WRLFMD	Sudan	EA-3
SUD/3/2017	n/a	cattle	WRLFMD	Sudan	EA-3
SUD/7/2017	n/a	cattle	WRLFMD	Sudan	EA-3
SUD/4/2017	n/a	cattle	WRLFMD	Sudan	EA-3
SUD/5/2017	n/a	cattle	WRLFMD	Sudan	EA-3
SUD/1/2016	n/a	cattle	WRLFMD	Sudan	EA-3
EGY/26/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/33/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Alexandria 1/Egy/2016*	MF322680	n/a	MEVAC	Egypt	EA-3
SUD/15/2017	n/a	cattle	WRLFMD	Sudan	EA-3
EGY/32/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/27/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/4/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/17/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Fayoum 1/Egy/2017*	MF322688	n/a	MEVAC	Egypt	EA-3
Fayoum 3/Egy/2017*	MF322690	n/a	MEVAC	Egypt	EA-3
EGY/31/2017	n/a	cattle	WRLFMD	Egypt	EA-3
PAT/20/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
ISR/17/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/18/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/16/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/13/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/12/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
West Bank/PAT/2017*	n/a	sheep	KVI	Palestinian AT	EA-3
PAT/11/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
PAT/14/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/16/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Bani Na'im/PAT/2017 B*	n/a	sheep	KVI	Palestinian AT	EA-3
PAT/17/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Bani Na'im/PAT/2017 C*	n/a	sheep	KVI	Palestinian AT	EA-3
Bani Na'im/PAT/2017 A*	n/a	sheep	KVI	Palestinian AT	EA-3
Yatta-Kraisah/PAT/2017*	n/a	cattle	KVI	Palestinian AT	EA-3
Ayn al-Sahla/ISR/2017*	n/a	cattle	KVI	Israel	EA-3
ISR/15/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/15/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Ramallah/PAT/2017*	n/a	sheep	KVI	Palestinian AT	EA-3

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label	accession	host(s)	lab	country	taxonomic information
PAT/18/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
ISR/7/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/9/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/5/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/2/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/4/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/4/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/6/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/8/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/1/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/3/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/6/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/1/2017	n/a	cattle	WRLFMD	Israel	EA-3
Fayoum 5/Egy/2017*	MF322692	n/a	MEVAC	Egypt	EA-3
PAT/7/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/10/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/5/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/2/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
EGY/16/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/13/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Cairo 1/Egy/2017*	MF322683	n/a	MEVAC	Egypt	EA-3
Behira 2/Egy/2017*	MF322687	n/a	MEVAC	Egypt	EA-3
Alexandria 1/Egy/2017*	MF322681	n/a	MEVAC	Egypt	EA-3
EGY/8/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/9/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Fayoum 4/Egy/2017*	MF322691	n/a	MEVAC	Egypt	EA-3
EGY/19/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/28/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/25/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Fayoum 2/Egy/2017*	MF322689	n/a	MEVAC	Egypt	EA-3
EGY/22/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/30/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/10/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/21/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Gharbia 1/Egy/2017*	MF322685	n/a	MEVAC	Egypt	EA-3
EGY/11/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
Behira 1/Egy/2017*	MF322686	n/a	MEVAC	Egypt	EA-3
Giza 1/Egy/2017*	MF322682	n/a	MEVAC	Egypt	EA-3
Sharkia 1/Egy/2017*	MF322684	n/a	MEVAC	Egypt	EA-3
EGY/6/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/7/2017	n/a	cattle	WRLFMD	Egypt	EA-3
ETH/16/2018	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/4/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/2/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/5/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/3/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ALG/1/2018	n/a	cattle	WRLFMD	Algeria	EA-3
ALG/2/2018	n/a	cattle	WRLFMD	Algeria	EA-3
SUD/2/86	DQ165075	bovine	WRLFMD	Sudan	EA-3
TAN/2/2004	KF561679	bovine	WRLFMD	Tanzania	EA-2
UGA/3/2002	DQ165077	n/a	WRLFMD	Uganda	EA-2
MAL/1/98	DQ165074	n/a	WRLFMD	Malawi	EA-2
ETH/3/2004	FJ798109	cattle	WRLFMD	Ethiopia	EA-3
ETH/1/2007	FJ798137	cattle	WRLFMD	Ethiopia	EA-3
CIV/8/99	AJ303485	bovine	WRLFMD	Cote d'Ivoire	WA
K83/79*	AJ303511	n/a	WRLFMD	Kenya	EA-1
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
Manisa/TUR/69*	AY593823	n/a	PIADC	Turkey	ME-SA
IND/53/79	AF292107	bovine	PD-FMD	India	ME-SA
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

*, not a WRLFMD Reference Number
n/a, not available