

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

Genotyping Report v2

FMDV serotype: A
Country: Ethiopia
Year: 2018
Batch: WRLMEG/2023/00029
No. of sequences: 1
Report date: 22nd September 2023
Report generated by: Nick Knowles
Report checked by: Don King



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

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Virus sample name:	ETH18/2023
Sender reference:	ETH18/23
Location of origin:	Kilte Awilailo, Tigray
Country of origin:	Ethiopia
Date of collection:	10/2018
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	A-1C612F/EUR-2B52R
Received for sequencing:	n/a
Created:	20/09/2023
Last updated:	20/09/2023
VIBASys IDs: sample 53975, genome 53976, sequence viba_53977, sequencing info 53978	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_41465	ETH/2/2019	cattle	100.0	0	A	AFRICA	G-IV	
viba_51469	ETH/21/2019	bovine	100.0	0	A	AFRICA	G-IV	
viba_41469	ETH/3/2019	cattle	100.0	0	A	AFRICA	G-IV	
viba_41461	ETH/1/2019	cattle	100.0	0	A	AFRICA	G-IV	
viba_41481	ETH/13/2019	cattle	100.0	0	A	AFRICA	G-IV	
viba_41473	ETH/11/2019	cattle	100.0	0	A	AFRICA	G-IV	
viba_51485	ETH/1/2020	bovine	100.0	0	A	AFRICA	G-IV	
viba_41477	ETH/12/2019	cattle	100.0	0	A	AFRICA	G-IV	
viba_41453	ETH/86/2018	cattle	99.8	0	A	AFRICA	G-IV	
viba_40371	ETH/45/2018	cattle	99.7	0	A	AFRICA	G-IV	

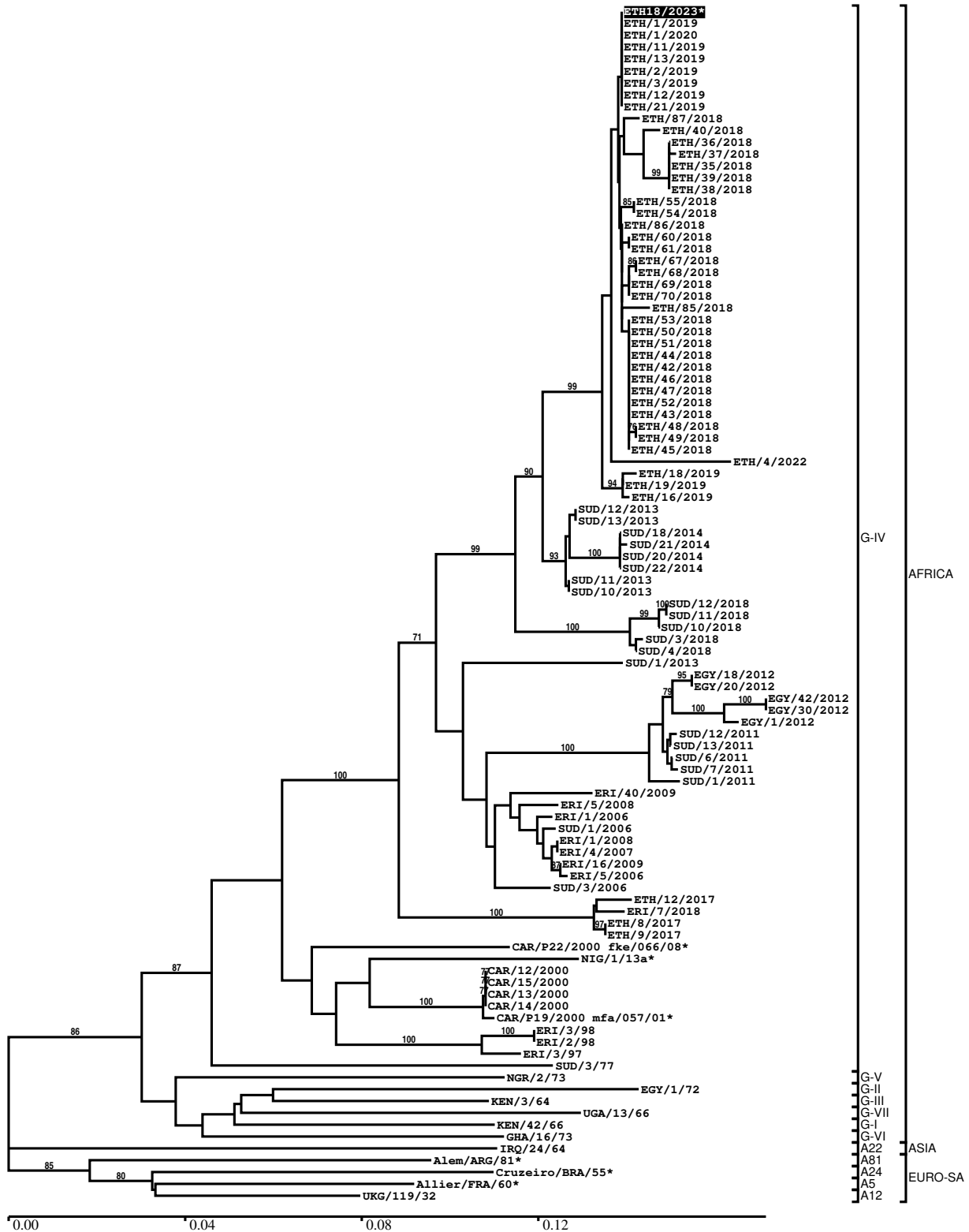
Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_178	SUD/3/77		84.5	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		84.3	0	A	AFRICA	G-I	
viba_535	NGR/2/73	bovine	84.2	0	A	AFRICA	G-V	
viba_785	KEN/3/64		83.7	0	A	AFRICA	G-III	
viba_609	GHA/16/73	bovine	83.3	0	A	AFRICA	G-VI	
viba_699	UKG/119/32		82.6	0	A	EURO-SA	A12	
viba_688	EGY/1/72	bovine	81.8	0	A	AFRICA	G-II	
viba_173	UGA/13/66	bovine	81.5	0	A	AFRICA	G-VII	
viba_435	Allier/FRA/60		81.2	0	A	EURO-SA	A5	
viba_98	Alem/ARG/81		81.1	0	A	EURO-SA	A81	

Report on FMDV A in Ethiopia in 2023

Batch: WRLMEG/2023/00029



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_A
Query sequence set:	WRLMEG/2023/00029-Ethiopia-A (1 sequences)
Sequence database set:	allseqs_A (2380 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
ETH18/2023*	n/a	bovine	BVI	Ethiopia	AFRICA/G-IV
ETH/1/2019	MN987534	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/1/2020	n/a	bovine	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/11/2019	MN987537	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/13/2019	MN987539	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/2/2019	MN987535	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/3/2019	MN987536	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/12/2019	MN987538	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/21/2019	n/a	bovine	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/87/2018	MN987533	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/40/2018	MN987510	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/36/2018	MN987506	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/37/2018	MN987507	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/35/2018	MN987505	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/39/2018	MN987509	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/38/2018	MN987508	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/55/2018	MN987524	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/54/2018	MN987523	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/86/2018	MN987532	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/60/2018	MN987525	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/61/2018	MN987526	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/67/2018	MN987527	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/68/2018	MN987528	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/69/2018	MN987529	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/70/2018	MN987530	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/85/2018	MN987531	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/53/2018	MN987522	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/50/2018	MN987519	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/51/2018	MN987520	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/44/2018	MN987513	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/42/2018	MN987511	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/46/2018	MN987515	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/47/2018	MN987516	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/52/2018	MN987521	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/43/2018	MN987512	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/48/2018	MN987517	cattle	WRLFMD	Ethiopia	AFRICA/G-IV

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label	accession	host(s)	lab	country	taxonomic information
ETH/49/2018	MN987518	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/45/2018	MN987514	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/4/2022	n/a	bovine	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/18/2019	MN987541	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/19/2019	MN987542	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/16/2019	MN987540	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
SUD/12/2013	MK422583	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/13/2013	MK422584	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/18/2014	MK422585	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/22/2014	MK422588	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/12/2018	MK422597	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/11/2018	MK422596	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/10/2018	MK422595	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/3/2018	MK422589	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/4/2018	MK422590	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/1/2013	MK422580	cattle	WRLFMD	Sudan	AFRICA/G-IV
EGY/18/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/20/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/42/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/30/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/1/2012	MK422572	n/a	WRLFMD	Egypt	AFRICA/G-IV
SUD/12/2011	MK422579	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/13/2011	MK422578	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
ERI/40/2009	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/5/2008	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/1/2006	KX258046	cattle	WRLFMD	Eritrea	AFRICA/G-IV
SUD/1/2006	GU566069	cattle	WRLFMD	Sudan	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
ERI/16/2009	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
ERI/5/2006	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
SUD/3/2006	GU566070	cattle	WRLFMD	Sudan	AFRICA/G-IV
ETH/12/2017	MN987500	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ERI/7/2018	n/a	bovine	WRLFMD	Eritrea	AFRICA/G-IV
ETH/8/2017	MN987498	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
ETH/9/2017	MN987499	cattle	WRLFMD	Ethiopia	AFRICA/G-IV
CAR/P22/2000 fke/066/08*	n/a	n/a	WRLFMD	Cameroon	AFRICA/G-IV
NIG/1/13a*	KY584070	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
CAR/12/2000	KX258130	n/a	WRLFMD	Cameroon	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/P19/2000 mfa/057/01*	n/a	n/a	WRLFMD	Cameroon	AFRICA/G-IV
ERI/3/98	KX258045	n/a	WRLFMD	Eritrea	AFRICA/G-IV
ERI/2/98	KX258044	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
NGR/2/73	KF561704	bovine	WRLFMD	Niger	AFRICA/G-V
EGY/1/72	EF208756	bovine	WRLFMD	Egypt	AFRICA/G-II
KEN/3/64	AY593761	n/a	PIADC	Kenya	AFRICA/G-III
UGA/13/66	KF561705	bovine	WRLFMD	Uganda	AFRICA/G-VII
KEN/42/66	KF561699	n/a	WRLFMD	Kenya	AFRICA/G-I
GHA/16/73	KF561698	bovine	WRLFMD	Ghana	AFRICA/G-VI
IRQ/24/64	AY593763	bovine	PIADC	Iraq	ASIA/A22
Alem/ARG/81*	AJ306219	n/a	INTA-Argentina	Argentina	EURO-SA/A81
Cruzeiro/BRA/55*	AY593768	bovine	PIADC	Brazil	EURO-SA/A24
Allier/FRA/60*	AY593780	n/a	PIADC	France	EURO-SA/A5
UKG/119/32	M10975	n/a	PIADC	United Kingdom	EURO-SA/A12

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