

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

## Genotyping Report

FMDV serotype: A  
Country: Ethiopia  
Year: 2017, 2018  
Batch: WRLFMD/2018/00009  
No. of sequences: 7  
Report date: 12th April 2018  
Report generated by: Nick Knowles  
Report checked by: Kasia Bankowska



Copyright © 2018 The Pirbright Institute, Ash Road, Pirbright, Woking GU24 0NF, United Kingdom.

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

email: [reporting@pirbright.ac.uk](mailto:reporting@pirbright.ac.uk)

The contents of this report should not be reproduced without permission.

Virus sample name:	ETH/8/2017
Sender reference:	ET-193751
Location of origin:	La'ilay Adiyabo, Northwestern Zone, Tigray
Country of origin:	Ethiopia
Date of collection:	27/06/2017
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RNA ex. Orig.
Harvest date of material:	n/a
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	11/04/2018
Created:	12/04/2018
Last updated:	12/04/2018
VIBASys IDs: sample 36270, genome 36271, sequence viba_36272, sequencing info 36273	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36276	ETH/9/2017	cattle	100.0	0	A	AFRICA	G-IV	
viba_36280	ETH/12/2017	cattle	98.9	0	A	AFRICA	G-IV	
viba_8324	SUD/3/2006	cattle	92.4	0	A	AFRICA	G-IV	
viba_8148	ERI/1/2006	cattle	92.1	0	A	AFRICA	G-IV	
viba_10446	ERI/1/2008	cattle	91.9	0	A	AFRICA	G-IV	
viba_9294	ERI/4/2007	cattle	91.9	0	A	AFRICA	G-IV	
viba_10450	ERI/5/2008	cattle	91.8	0	A	AFRICA	G-IV	
viba_8320	SUD/1/2006	cattle	91.8	0	A	AFRICA	G-IV	
viba_29795	SUD/10/2013	cattle	91.6	0	A	AFRICA	G-IV	
viba_29799	SUD/11/2013	cattle	91.6	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		86.1	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		83.9	0	A	AFRICA	G-I	
viba_609	GHA/16/73	bovine	83.6	0	A	AFRICA	G-VI	
viba_535	NGR/2/73	bovine	83.4	0	A	AFRICA	G-V	
viba_785	KEN/3/64		83.4	0	A	AFRICA	G-III	
viba_173	UGA/13/66	bovine	82.1	0	A	AFRICA	G-VII	
viba_699	UKG/119/32		80.9	0	A	EURO-SA	A12	
viba_589	Bangkok/TAI/60		80.9	0	A	ASIA	A15	
viba_688	EGY/1/72	bovine	80.2	0	A	AFRICA	G-II	
viba_435	Allier/FRA/60		79.5	0	A	EURO-SA	A5	

Virus sample name:	ETH/9/2017
Sender reference:	ET-193752
Location of origin:	La'ilay Adiyabo, Northwestern Zone, Tigray
Country of origin:	Ethiopia
Date of collection:	27/06/2017
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RNA ex. Orig.
Harvest date of material:	n/a
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	11/04/2018
Created:	12/04/2018
Last updated:	12/04/2018
VIBASys IDs: sample 36274, genome 36275, sequence viba_36276, sequencing info 36277	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36272	ETH/8/2017	cattle	100.0	0	A	AFRICA	G-IV	
viba_36280	ETH/12/2017	cattle	98.9	0	A	AFRICA	G-IV	
viba_8324	SUD/3/2006	cattle	92.4	0	A	AFRICA	G-IV	
viba_8148	ERI/1/2006	cattle	92.1	0	A	AFRICA	G-IV	
viba_10446	ERI/1/2008	cattle	91.9	0	A	AFRICA	G-IV	
viba_9294	ERI/4/2007	cattle	91.9	0	A	AFRICA	G-IV	
viba_10450	ERI/5/2008	cattle	91.8	0	A	AFRICA	G-IV	
viba_8320	SUD/1/2006	cattle	91.8	0	A	AFRICA	G-IV	
viba_29795	SUD/10/2013	cattle	91.6	0	A	AFRICA	G-IV	
viba_29799	SUD/11/2013	cattle	91.6	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		86.1	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		83.9	0	A	AFRICA	G-I	
viba_609	GHA/16/73	bovine	83.6	0	A	AFRICA	G-VI	
viba_535	NGR/2/73	bovine	83.4	0	A	AFRICA	G-V	
viba_785	KEN/3/64		83.4	0	A	AFRICA	G-III	
viba_173	UGA/13/66	bovine	82.1	0	A	AFRICA	G-VII	
viba_699	UKG/119/32		80.9	0	A	EURO-SA	A12	
viba_589	Bangkok/TAI/60		80.9	0	A	ASIA	A15	
viba_688	EGY/1/72	bovine	80.2	0	A	AFRICA	G-II	
viba_435	Allier/FRA/60		79.5	0	A	EURO-SA	A5	

Virus sample name:	ETH/12/2017
Sender reference:	ET-678361
Location of origin:	Mekele, Western Zone, Tigray
Country of origin:	Ethiopia
Date of collection:	18/11/2017
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RNA ex. Orig.
Harvest date of material:	n/a
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	11/04/2018
Created:	12/04/2018
Last updated:	12/04/2018
VIBASys IDs: sample 36278, genome 36279, sequence viba_36280, sequencing info 36281	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36276	ETH/9/2017	cattle	98.9	0	A	AFRICA	G-IV	
viba_36272	ETH/8/2017	cattle	98.9	0	A	AFRICA	G-IV	
viba_8324	SUD/3/2006	cattle	91.9	0	A	AFRICA	G-IV	
viba_10446	ERI/1/2008	cattle	91.8	0	A	AFRICA	G-IV	
viba_9294	ERI/4/2007	cattle	91.8	0	A	AFRICA	G-IV	
viba_8148	ERI/1/2006	cattle	91.6	0	A	AFRICA	G-IV	
viba_10450	ERI/5/2008	cattle	91.6	0	A	AFRICA	G-IV	
viba_11408	ERI/16/2009	cattle	91.5	0	A	AFRICA	G-IV	
viba_8320	SUD/1/2006	cattle	91.3	0	A	AFRICA	G-IV	
viba_8152	ERI/5/2006	cattle	91.3	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		86.1	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		84.1	0	A	AFRICA	G-I	
viba_609	GHA/16/73	bovine	83.8	0	A	AFRICA	G-VI	
viba_785	KEN/3/64		83.1	0	A	AFRICA	G-III	
viba_535	NGR/2/73	bovine	82.9	0	A	AFRICA	G-V	
viba_173	UGA/13/66	bovine	82.0	0	A	AFRICA	G-VII	
viba_699	UKG/119/32		80.8	0	A	EURO-SA	A12	
viba_589	Bangkok/TAI/60		80.6	0	A	ASIA	A15	
viba_688	EGY/1/72	bovine	80.3	0	A	AFRICA	G-II	
viba_435	Allier/FRA/60		80.0	0	A	EURO-SA	A5	

Virus sample name:	ETH/1/2018
Sender reference:	ET-193514
Location of origin:	Meki, East Shewa Zone, Oromia
Country of origin:	Ethiopia
Date of collection:	05/01/2018
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-I
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	21/03/2018
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	04/04/2018
Last updated:	04/04/2018
VIBASys IDs: sample 36153, genome 36154, sequence viba_36155, sequencing info 36156	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36163	ETH/3/2018	cattle	100.0	0	A	AFRICA	G-I	
viba_36167	ETH/6/2018	cattle	100.0	0	A	AFRICA	G-I	
viba_36159	ETH/2/2018	cattle	99.8	0	A	AFRICA	G-I	
viba_21286	TAN/26/2013	cattle	95.7	0	A	AFRICA	G-I	
viba_11314	K73/08	cattle	94.2	0	A	AFRICA	G-I	
viba_10489	KEN/28/2008	cattle	94.2	0	A	AFRICA	G-I	
viba_12074	TAN/47/2009	cattle	93.8	0	A	AFRICA	G-I	
viba_12066	TAN/42/2009	cattle	93.7	0	A	AFRICA	G-I	
viba_11717	KEN/22/2009	cattle	93.5	0	A	AFRICA	G-I	
viba_11721	K63/09	cattle	93.5	0	A	AFRICA	G-I	

#### 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_347	KEN/42/66		84.3	0	A	AFRICA	G-I	
viba_785	KEN/3/64		82.5	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	82.0	0	A	AFRICA	G-II	
viba_699	UKG/119/32		81.9	0	A	EURO-SA	A12	
viba_173	UGA/13/66	bovine	81.5	0	A	AFRICA	G-VII	
viba_535	NGR/2/73	bovine	80.7	0	A	AFRICA	G-V	
viba_178	SUD/3/77		80.6	0	A	AFRICA	G-IV	
viba_589	Bangkok/TAI/60		80.4	0	A	ASIA	A15	
viba_403	TUR/1/2008	cattle	80.1	0	A	ASIA	Iran-05	ARD-07
viba_331	AFG/10/2010		79.8	0	A	ASIA	Iran-05	HER-10

Virus sample name:	ETH/2/2018
Sender reference:	ET-193513
Location of origin:	Meki, East Shewa Zone, Oromia
Country of origin:	Ethiopia
Date of collection:	05/01/2018
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-I
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	21/03/2018
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	04/04/2018
Last updated:	04/04/2018

VIBASys IDs: sample 36157, genome 36158, sequence viba\_36159, sequencing info 36160

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36155	ETH/1/2018	cattle	99.8	0	A	AFRICA	G-I	
viba_36163	ETH/3/2018	cattle	99.8	0	A	AFRICA	G-I	
viba_36167	ETH/6/2018	cattle	99.8	0	A	AFRICA	G-I	
viba_21286	TAN/26/2013	cattle	95.6	0	A	AFRICA	G-I	
viba_11314	K73/08	cattle	94.0	0	A	AFRICA	G-I	
viba_10489	KEN/28/2008	cattle	94.0	0	A	AFRICA	G-I	
viba_12074	TAN/47/2009	cattle	93.7	0	A	AFRICA	G-I	
viba_17016	COD/11/2011	cattle	93.5	0	A	AFRICA	G-I	
viba_17008	COD/9/2011	cattle	93.5	0	A	AFRICA	G-I	
viba_17020	COD/12/2011	cattle	93.5	0	A	AFRICA	G-I	

#### 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_347	KEN/42/66		84.2	0	A	AFRICA	G-I	
viba_785	KEN/3/64		82.4	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	81.8	0	A	AFRICA	G-II	
viba_699	UKG/119/32		81.7	0	A	EURO-SA	A12	
viba_173	UGA/13/66	bovine	81.3	0	A	AFRICA	G-VII	
viba_535	NGR/2/73	bovine	80.5	0	A	AFRICA	G-V	
viba_178	SUD/3/77		80.4	0	A	AFRICA	G-IV	
viba_589	Bangkok/TAI/60		80.3	0	A	ASIA	A15	
viba_403	TUR/1/2008	cattle	79.9	0	A	ASIA	Iran-05	ARD-07
viba_331	AFG/10/2010		79.7	0	A	ASIA	Iran-05	HER-10

Virus sample name:	ETH/3/2018
Sender reference:	ET-193511
Location of origin:	Meki, East Shewa Zone, Oromia
Country of origin:	Ethiopia
Date of collection:	05/01/2018
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-I
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	21/03/2018
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	04/04/2018
Last updated:	04/04/2018
VIBASys IDs: sample 36161, genome 36162, sequence viba_36163, sequencing info 36164	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36155	ETH/1/2018	cattle	100.0	0	A	AFRICA	G-I	
viba_36167	ETH/6/2018	cattle	100.0	0	A	AFRICA	G-I	
viba_36159	ETH/2/2018	cattle	99.8	0	A	AFRICA	G-I	
viba_21286	TAN/26/2013	cattle	95.7	0	A	AFRICA	G-I	
viba_11314	K73/08	cattle	94.2	0	A	AFRICA	G-I	
viba_10489	KEN/28/2008	cattle	94.2	0	A	AFRICA	G-I	
viba_12074	TAN/47/2009	cattle	93.8	0	A	AFRICA	G-I	
viba_12066	TAN/42/2009	cattle	93.7	0	A	AFRICA	G-I	
viba_11717	KEN/22/2009	cattle	93.5	0	A	AFRICA	G-I	
viba_11721	K63/09	cattle	93.5	0	A	AFRICA	G-I	

#### 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_347	KEN/42/66		84.3	0	A	AFRICA	G-I	
viba_785	KEN/3/64		82.5	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	82.0	0	A	AFRICA	G-II	
viba_699	UKG/119/32		81.9	0	A	EURO-SA	A12	
viba_173	UGA/13/66	bovine	81.5	0	A	AFRICA	G-VII	
viba_535	NGR/2/73	bovine	80.7	0	A	AFRICA	G-V	
viba_178	SUD/3/77		80.6	0	A	AFRICA	G-IV	
viba_589	Bangkok/TAI/60		80.4	0	A	ASIA	A15	
viba_403	TUR/1/2008	cattle	80.1	0	A	ASIA	Iran-05	ARD-07
viba_331	AFG/10/2010		79.8	0	A	ASIA	Iran-05	HER-10

Virus sample name:	ETH/6/2018
Sender reference:	ET-193502
Location of origin:	Meki, East Shewa Zone, Oromia
Country of origin:	Ethiopia
Date of collection:	05/01/2018
Host species:	cattle
Serotype:	A
Topotype:	AFRICA
Lineage:	G-I
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	16/03/2018
Primers:	A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R
Received for sequencing:	03/04/2018
Created:	04/04/2018
Last updated:	04/04/2018
VIBASys IDs: sample 36165, genome 36166, sequence viba_36167, sequencing info 36168	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36155	ETH/1/2018	cattle	100.0	0	A	AFRICA	G-I	
viba_36163	ETH/3/2018	cattle	100.0	0	A	AFRICA	G-I	
viba_36159	ETH/2/2018	cattle	99.8	0	A	AFRICA	G-I	
viba_21286	TAN/26/2013	cattle	95.7	0	A	AFRICA	G-I	
viba_11314	K73/08	cattle	94.2	0	A	AFRICA	G-I	
viba_10489	KEN/28/2008	cattle	94.2	0	A	AFRICA	G-I	
viba_12074	TAN/47/2009	cattle	93.8	0	A	AFRICA	G-I	
viba_12066	TAN/42/2009	cattle	93.7	0	A	AFRICA	G-I	
viba_11717	KEN/22/2009	cattle	93.5	0	A	AFRICA	G-I	
viba_11721	K63/09	cattle	93.5	0	A	AFRICA	G-I	

#### 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_347	KEN/42/66		84.3	0	A	AFRICA	G-I	
viba_785	KEN/3/64		82.5	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	82.0	0	A	AFRICA	G-II	
viba_699	UKG/1/19/32		81.9	0	A	EURO-SA	A12	
viba_173	UGA/13/66	bovine	81.5	0	A	AFRICA	G-VII	
viba_535	NGR/2/73	bovine	80.7	0	A	AFRICA	G-V	
viba_178	SUD/3/77		80.6	0	A	AFRICA	G-IV	
viba_589	Bangkok/TAI/60		80.4	0	A	ASIA	A15	
viba_403	TUR/1/2008	cattle	80.1	0	A	ASIA	Iran-05	ARD-07
viba_331	AFG/10/2010		79.8	0	A	ASIA	Iran-05	HER-10



Report on FMDV A in Ethiopia in 2017, 2018

Batch: WRLFMD/2018/00009



\*, not a WRLFMD Reference Number

## Analysis Parameters

VP1 subsequence extractor: vp1\_A  
 Query sequence set: WRLFMD/2018/00009-Ethiopia-A (7 sequences)  
 Sequence database set: allseqs\_A (1809 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: 12  
 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
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/1/2013	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/10/2013	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/11/2013	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/13/2013	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/12/2013	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
ERI/40/2009	n/a	cattle	WRLFMD	Eritrea	AFRICA/G-IV
SUD/3/2006	GU566070	cattle	WRLFMD	Sudan	AFRICA/G-IV
ERI/5/2008	n/a	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
ERI/1/2006	KX258046	cattle	WRLFMD	Eritrea	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/30/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/42/2012	n/a	cattle	WRLFMD	Egypt	AFRICA/G-IV
EGY/1/2012	n/a	n/a	WRLFMD	Egypt	AFRICA/G-IV
SUD/12/2011	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/13/2011	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/7/2011	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/6/2011	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
SUD/1/2011	n/a	cattle	WRLFMD	Sudan	AFRICA/G-IV
NIG/3/2009	KX258049	cattle	WRLFMD	Nigeria	AFRICA/G-IV
MAI/4/2004	KX258047	cattle	n/a	Mali	AFRICA/G-IV
CAR/14/2000	KX258132	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/15/2000	EF208755	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/12/2000	KX258130	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/13/2000	KX258131	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/P19/2000 mfa/057/01*	n/a	n/a	WRLFMD	Cameroon	AFRICA/G-IV
CAR/P22/2000 fke/066/08*	n/a	n/a	WRLFMD	Cameroon	AFRICA/G-IV
ERI/3/98	KX258045	n/a	WRLFMD	Eritrea	AFRICA/G-IV

*continued on next page*

label	accession	host(s)	lab	country	taxonomic information
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
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
UGA/13/66	KF561705	bovine	WRLFMD	Uganda	AFRICA/G-VII
GHA/16/73	KF561698	bovine	WRLFMD	Ghana	AFRICA/G-VI
KEN/3/64	AY593761	n/a	PIADC	Kenya	AFRICA/G-III
NGR/2/73	KF561704	bovine	WRLFMD	Niger	AFRICA/G-V
EGY/1/72	EF208756	bovine	WRLFMD	Egypt	AFRICA/G-II
ETH/1/2018	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-I
ETH/3/2018	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-I
ETH/6/2018	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-I
ETH/2/2018	n/a	cattle	WRLFMD	Ethiopia	AFRICA/G-I
TAN/26/2013	MF592660	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/16/2013	MF592653	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/18/2013	MF592654	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/7/2013	MF592649	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/2/2013	MF592646	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/61/2012	MF592633	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/1/2013	MF592645	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/56/2012	MF592631	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/66/2012	MF592636	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/65/2012	MF592635	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN-CVL-2011-0160*	n/a	bovine	CVL	Tanzania	AFRICA/G-I
TAN-CVL-2011-0146*	n/a	cattle	CVL-Tanzania	Tanzania	AFRICA/G-I
TAN-CVL-2011-0289*	n/a	bovine	CVL	Tanzania	AFRICA/G-I
TAN-CVL-2011-0066*	n/a	bovine	CVL	Tanzania	AFRICA/G-I
TAN-CVL-2011-0293*	n/a	bovine	CVL	Tanzania	AFRICA/G-I
TAN-CVL-2011-0125*	n/a	bovine	CVL	Tanzania	AFRICA/G-I
K138/12*	KJ440872	cattle	Embakasi/Lindholm	Kenya	AFRICA/G-I
K143/12*	KJ440873	cattle	Embakasi/Lindholm	Kenya	AFRICA/G-I
KEN/6/2012	n/a	bovine	WRLFMD	Kenya	AFRICA/G-I
K148/12*	KJ440874	cattle	Embakasi/Lindholm	Kenya	AFRICA/G-I
KEN/5/2012	n/a	bovine	WRLFMD	Kenya	AFRICA/G-I
K63/09*	KJ440871	cattle	Embakasi/Lindholm	Kenya	AFRICA/G-I
KEN/22/2009	KF561703	cattle	WRLFMD	Kenya	AFRICA/G-I
TAN/42/2009	KF561695	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/47/2009	KF561697	cattle	WRLFMD	Tanzania	AFRICA/G-I
K73/08*	KJ440870	cattle	Embakasi/Lindholm	Kenya	AFRICA/G-I
KEN/28/2008	KF561702	cattle	WRLFMD	Kenya	AFRICA/G-I
TAN/4/2009	KF561692	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/45/2009	KF561696	cattle	WRLFMD	Tanzania	AFRICA/G-I
TAN/11/2009	KF561694	cattle	WRLFMD	Tanzania	AFRICA/G-I
COD/9/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
COD/10/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
COD/11/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
COD/12/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
COD/2/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
COD/8/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
COD/3/2011	n/a	cattle	WRLFMD	Democratic Republic of the Congo	AFRICA/G-I
KEN/42/66	KF561699	n/a	WRLFMD	Kenya	AFRICA/G-I

*continued on next page*

label	accession	host(s)	lab	country	taxonomic information
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
Bangkok/TAI/60*	AY593755	n/a	PIADC	Thailand	ASIA/A15
AFG/10/2010	KY091293	n/a	WRLFMD	Afghanistan	ASIA/Iran-05/HER-10
TUR/1/2008	FJ755133	cattle	WRLFMD	Turkey	ASIA/Iran-05/ARD-07
IRQ/24/64	AY593763	bovine	PIADC	Iraq	ASIA/A22

\*, not a WRLFMD Reference Number

n/a, not available