

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

## Genotyping Report

FMDV serotype: O  
Country: Tunisia  
Year: 2018, 2019  
Batch: WRLMEG/2019/00020  
No. of sequences: 6  
Report date: 28th February 2019  
Report generated by: Nick Knowles  
Report checked by: Jemma Wadsworth



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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:	TUN/19Z002379/19
Sender reference:	O/TUN/19Z002379/19
Location of origin:	Siliana
Country of origin:	Tunisia
Date of collection:	15/12/2018
Host species:	bovine
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	28/02/2019
Last updated:	28/02/2019
VIBASys IDs: sample 40253, genome 40254, sequence viba_40255, sequencing info 40256	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_40275	TUN/19Z002380/19	bovine	99.5	0	O	EA-3		
viba_37530	MAU/18Z007128/18		99.4	0	O	EA-3		
viba_37575	SEN/4/2018	cattle	99.4	0	O	EA-3		
viba_36938	ALG/1/2018	cattle	99.4	0	O	EA-3		
viba_37583	SEN/9/2018	cattle	99.4	0	O	EA-3		
viba_38425	CIV/18Z008489/18	porcine	99.2	0	O	EA-3		
viba_37256	GNA/18Z005587/18		99.2	0	O	EA-3		
viba_37252	GNA/18Z005583/18		99.2	0	O	EA-3		
viba_37755	BKF/15/2018	cattle	99.2	0	O	EA-3		
viba_37567	SEN/1/2018	cattle	99.2	0	O	EA-3		

#### 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_116	SUD/2/86	bovine	88.8	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.0	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.2	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	85.2	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.9	0	O	EA-4		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_85	UGA/3/2002		83.9	0	O	EA-2		
viba_104	GHA/5/93	bovine	83.8	0	O	WA		
viba_523	K83/79		83.7	0	O	EA-1		
viba_541	OMN/7/2001	bovine	83.6	0	O	ME-SA	Ind-2001	b

Virus sample name:	TUN/19Z002372/19
Sender reference:	O/TUN/19Z002372/19
Location of origin:	Jendouba
Country of origin:	Tunisia
Date of collection:	17/12/2018
Host species:	bovine
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	28/02/2019
Last updated:	28/02/2019
VIBASys IDs: sample 40257, genome 40258, sequence viba_40259, sequencing info 40260	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_40263	TUN/19Z002373/19	bovine	100.0	0	O	EA-3		
viba_37530	MAU/18Z007128/18		99.2	0	O	EA-3		
viba_37575	SEN/4/2018	cattle	99.2	0	O	EA-3		
viba_36938	ALG/1/2018	cattle	99.2	0	O	EA-3		
viba_37583	SEN/9/2018	cattle	99.2	0	O	EA-3		
viba_38425	CIV/18Z008489/18	porcine	99.1	0	O	EA-3		
viba_37256	GNA/18Z005587/18		99.1	0	O	EA-3		
viba_39804	MOR/19Z01728/19	bovine	99.1	0	O	EA-3		
viba_37252	GNA/18Z005583/18		99.1	0	O	EA-3		
viba_37755	BKF/15/2018	cattle	99.1	0	O	EA-3		

#### 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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.5	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.3	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	85.0	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.9	0	O	EA-4		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_85	UGA/3/2002		83.7	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		
viba_104	GHA/5/93	bovine	83.4	0	O	WA		

Virus sample name:	TUN/19Z002373/19
Sender reference:	O/TUN/19Z002373/19
Location of origin:	Jendouba
Country of origin:	Tunisia
Date of collection:	17/12/2018
Host species:	bovine
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	28/02/2019
Last updated:	28/02/2019
VIBASys IDs: sample 40261, genome 40262, sequence viba_40263, sequencing info 40264	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_40259	TUN/19Z002372/19	bovine	100.0	0	O	EA-3		
viba_37530	MAU/18Z007128/18		99.2	0	O	EA-3		
viba_37575	SEN/4/2018	cattle	99.2	0	O	EA-3		
viba_36938	ALG/1/2018	cattle	99.2	0	O	EA-3		
viba_37583	SEN/9/2018	cattle	99.2	0	O	EA-3		
viba_38425	CIV/18Z008489/18	porcine	99.1	0	O	EA-3		
viba_37256	GNA/18Z005587/18		99.1	0	O	EA-3		
viba_39804	MOR/19Z01728/19	bovine	99.1	0	O	EA-3		
viba_37252	GNA/18Z005583/18		99.1	0	O	EA-3		
viba_37755	BKF/15/2018	cattle	99.1	0	O	EA-3		

#### 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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.5	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.3	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	85.0	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.9	0	O	EA-4		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_85	UGA/3/2002		83.7	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		
viba_104	GHA/5/93	bovine	83.4	0	O	WA		

Virus sample name:	TUN/19Z002378/19
Sender reference:	O/TUN/19Z002378/19
Location of origin:	Sidi Bouzid
Country of origin:	Tunisia
Date of collection:	19/12/2018
Host species:	bovine
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	28/02/2019
Last updated:	28/02/2019
VIBASys IDs: sample 40265, genome 40266, sequence viba_40267, sequencing info 40268	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37530	MAU/18Z007128/18		99.1	0	O	EA-3		
viba_37260	GNA/18Z005588/18		99.1	0	O	EA-3		
viba_37575	SEN/4/2018	cattle	99.1	0	O	EA-3		
viba_36938	ALG/1/2018	cattle	99.1	0	O	EA-3		
viba_37583	SEN/9/2018	cattle	99.1	0	O	EA-3		
viba_38425	CIV/18Z008489/18	porcine	98.9	0	O	EA-3		
viba_37256	GNA/18Z005587/18		98.9	0	O	EA-3		
viba_37252	GNA/18Z005583/18		98.9	0	O	EA-3		
viba_37755	BKF/15/2018	cattle	98.9	0	O	EA-3		
viba_37567	SEN/1/2018	cattle	98.9	0	O	EA-3		

#### 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_116	SUD/2/86	bovine	89.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.8	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.6	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	85.3	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.8	0	O	EA-4		
viba_285	UKG/35/2001	porcine	84.6	0	O	ME-SA	PanAsia	
viba_576	IND/R2/75		84.5	0	O	ME-SA		
viba_766	IRN/31/2009	cattle	84.3	0	O	ME-SA	PanAsia-2	FAR-09
viba_85	UGA/3/2002		84.1	0	O	EA-2		
viba_104	GHA/5/93	bovine	84.1	0	O	WA		

Virus sample name:	TUN/19Z002374/19
Sender reference:	O/TUN/19Z002374/19
Location of origin:	Gafsa
Country of origin:	Tunisia
Date of collection:	13/01/2019
Host species:	bovine
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	28/02/2019
Last updated:	28/02/2019
VIBASys IDs: sample 40269, genome 40270, sequence viba_40271, sequencing info 40272	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_38403	ALG/19Z000122/18	caprine	99.5	0	O	EA-3		
viba_38407	ALG/19Z000123/18	caprine	99.5	0	O	EA-3		
viba_38399	ALG/19Z000121/18	caprine	99.5	0	O	EA-3		
viba_38391	ALG/19Z000118/18	bovine	99.5	0	O	EA-3		
viba_39444	ALG/6/2018	cattle	99.5	0	O	EA-3		
viba_38383	ALG/19Z000117/18	bovine	99.5	0	O	EA-3		
viba_38379	ALG/19Z000116/18	bovine	99.5	0	O	EA-3		
viba_39448	ALG/7/2018	cattle	99.5	0	O	EA-3		
viba_38395	ALG/19Z000119/18	bovine	99.5	0	O	EA-3		
viba_39440	ALG/5/2018	cattle	99.5	0	O	EA-3		

#### 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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.3	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	85.3	0	O	ME-SA	Ind-2001	e
viba_854	ETH/1/2007	cattle	85.2	0	O	EA-3		
viba_50	UGA/17/98		84.9	0	O	EA-4		
viba_85	UGA/3/2002		84.2	0	O	EA-2		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	84.0	0	O	ME-SA	PanAsia-2	FAR-09
viba_104	GHA/5/93	bovine	83.8	0	O	WA		
viba_523	K83/79		83.7	0	O	EA-1		

Virus sample name:	TUN/19Z002380/19
Sender reference:	O/TUN/19Z002380/19
Location of origin:	Sidi Bouzid
Country of origin:	Tunisia
Date of collection:	13/01/2019
Host species:	bovine
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	28/02/2019
Last updated:	28/02/2019
VIBASys IDs: sample 40273, genome 40274, sequence viba_40275, sequencing info 40276	

#### Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_37530	MAU/18Z007128/18		99.5	0	O	EA-3		
viba_37575	SEN/4/2018	cattle	99.5	0	O	EA-3		
viba_36938	ALG/1/2018	cattle	99.5	0	O	EA-3		
viba_37583	SEN/9/2018	cattle	99.5	0	O	EA-3		
viba_40255	TUN/19Z002379/19	bovine	99.5	0	O	EA-3		
viba_38425	CIV/18Z008489/18	porcine	99.4	0	O	EA-3		
viba_37256	GNA/18Z005587/18		99.4	0	O	EA-3		
viba_37252	GNA/18Z005583/18		99.4	0	O	EA-3		
viba_37755	BKF/15/2018	cattle	99.4	0	O	EA-3		
viba_37567	SEN/1/2018	cattle	99.4	0	O	EA-3		

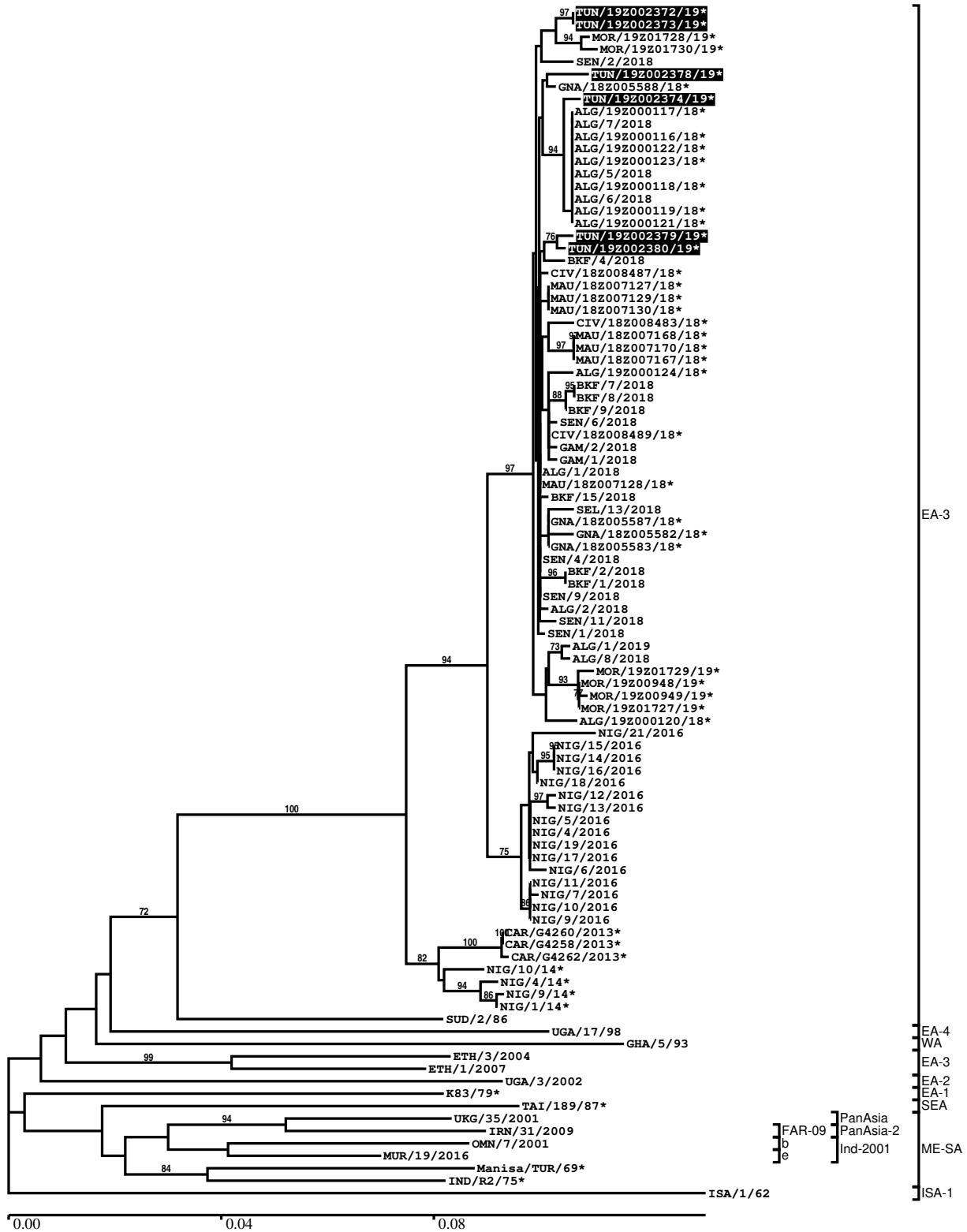
#### Most Closely Related Prototype Sequences

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_116	SUD/2/86	bovine	88.6	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.5	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.3	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	85.0	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.8	0	O	EA-4		
viba_285	UKG/35/2001	porcine	84.0	0	O	ME-SA	PanAsia	
viba_85	UGA/3/2002		83.9	0	O	EA-2		
viba_523	K83/79		83.6	0	O	EA-1		
viba_104	GHA/5/93	bovine	83.6	0	O	WA		
viba_576	IND/R2/75		83.6	0	O	ME-SA		

Report on FMDV O in Tunisia in 2018, 2019

Batch: WRLMEG/2019/00020



\*, not a WRLFMD Reference Number



## Analysis Parameters

VP1 subsequence extractor: vp1\_O  
 Query sequence set: WRLMEG/2019/00020-Tunisia-O (6 sequences)  
 Sequence database set: allseqs\_O (4306 sequences)  
 Prototype sequence set: !prototypes\_O (49 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: 13  
 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
TUN/19Z002372/19*	n/a	bovine	ANSES	Tunisia	EA-3
TUN/19Z002373/19*	n/a	bovine	ANSES	Tunisia	EA-3
MOR/19Z01728/19*	n/a	bovine	ANSES	Morocco	EA-3
MOR/19Z01730/19*	n/a	bovine	ANSES	Morocco	EA-3
SEN/2/2018	n/a	porcine	WRLFMD	Senegal	EA-3
TUN/19Z002378/19*	n/a	bovine	ANSES	Tunisia	EA-3
GNA/18Z005588/18*	n/a	n/a	ANSES	Guinea	EA-3
TUN/19Z002374/19*	n/a	bovine	ANSES	Tunisia	EA-3
ALG/19Z000117/18*	n/a	bovine	ANSES	Algeria	EA-3
ALG/7/2018	n/a	cattle	WRLFMD	Algeria	EA-3
ALG/19Z000116/18*	n/a	bovine	ANSES	Algeria	EA-3
ALG/19Z000122/18*	n/a	caprine	ANSES	Algeria	EA-3
ALG/19Z000123/18*	n/a	caprine	ANSES	Algeria	EA-3
ALG/5/2018	n/a	cattle	WRLFMD	Algeria	EA-3
ALG/19Z000118/18*	n/a	bovine	ANSES	Algeria	EA-3
ALG/6/2018	n/a	cattle	WRLFMD	Algeria	EA-3
ALG/19Z000119/18*	n/a	bovine	ANSES	Algeria	EA-3
ALG/19Z000121/18*	n/a	caprine	ANSES	Algeria	EA-3
TUN/19Z002379/19*	n/a	bovine	ANSES	Tunisia	EA-3
TUN/19Z002380/19*	n/a	bovine	ANSES	Tunisia	EA-3
BKF/4/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
CIV/18Z008487/18*	n/a	porcine	ANSES	Cote d'Ivoire	EA-3
MAU/18Z007127/18*	n/a	n/a	ANSES	Mauritania	EA-3
MAU/18Z007129/18*	n/a	n/a	ANSES	Mauritania	EA-3
MAU/18Z007130/18*	n/a	n/a	ANSES	Mauritania	EA-3
CIV/18Z008483/18*	n/a	porcine	ANSES	Cote d'Ivoire	EA-3
MAU/18Z007168/18*	n/a	n/a	ANSES	Mauritania	EA-3
MAU/18Z007170/18*	n/a	n/a	ANSES	Mauritania	EA-3
MAU/18Z007167/18*	n/a	n/a	ANSES	Mauritania	EA-3
ALG/19Z000124/18*	n/a	caprine	ANSES	Algeria	EA-3
BKF/7/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
BKF/8/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
BKF/9/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
SEN/6/2018	n/a	cattle	WRLFMD	Senegal	EA-3
CIV/18Z008489/18*	n/a	porcine	ANSES	Cote d'Ivoire	EA-3
GAM/2/2018	n/a	cattle	WRLFMD	Gambia	EA-3

*continued on next page*

label	accession	host(s)	lab	country	taxonomic information
GAM/1/2018	n/a	cattle	WRLFMD	Gambia	EA-3
ALG/1/2018	n/a	cattle	WRLFMD	Algeria	EA-3
MAU/18Z007128/18*	n/a	n/a	ANSES	Mauritania	EA-3
BKF/15/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
SEL/13/2018	n/a	cattle	WRLFMD	Sierra Leone	EA-3
GNA/18Z005587/18*	n/a	n/a	ANSES	Guinea	EA-3
GNA/18Z005582/18*	n/a	n/a	ANSES	Guinea	EA-3
GNA/18Z005583/18*	n/a	n/a	ANSES	Guinea	EA-3
SEN/4/2018	n/a	cattle	WRLFMD	Senegal	EA-3
BKF/2/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
BKF/1/2018	n/a	cattle	WRLFMD	Burkina Faso	EA-3
SEN/9/2018	n/a	cattle	WRLFMD	Senegal	EA-3
ALG/2/2018	n/a	cattle	WRLFMD	Algeria	EA-3
SEN/11/2018	n/a	cattle	WRLFMD	Senegal	EA-3
SEN/1/2018	n/a	cattle	WRLFMD	Senegal	EA-3
ALG/1/2019	n/a	cattle	WRLFMD	Algeria	EA-3
ALG/8/2018	n/a	cattle	WRLFMD	Algeria	EA-3
MOR/19Z01729/19*	n/a	bovine	ANSES	Morocco	EA-3
MOR/19Z00948/19*	n/a	bovine	ANSES	Morocco	EA-3
MOR/19Z00949/19*	n/a	bovine	ANSES	Morocco	EA-3
MOR/19Z01727/19*	n/a	bovine	ANSES	Morocco	EA-3
ALG/19Z000120/18*	n/a	ovine	ANSES	Algeria	EA-3
NIG/21/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/15/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/14/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/16/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/18/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/12/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/13/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/5/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/4/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/19/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/17/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/6/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/11/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/7/2016	n/a	sheep	WRLFMD	Nigeria	EA-3
NIG/10/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/9/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
CAR/G4260/2013*	KY581679	cattle	PIADC	Cameroon	EA-3
CAR/G4258/2013*	KY581680	cattle	PIADC	Cameroon	EA-3
CAR/G4262/2013*	MH383079	cattle	PIADC	Cameroon	EA-3
NIG/10/14*	KY041874	bovine	CODA-CERVA	Nigeria	EA-3
NIG/4/14*	KY065153	bovine	CODA-CERVA	Nigeria	EA-3
NIG/9/14*	KY065152	bovine	CODA-CERVA	Nigeria	EA-3
NIG/1/14*	KY041876	bovine	CODA-CERVA	Nigeria	EA-3
SUD/2/86	DQ165075	bovine	WRLFMD	Sudan	EA-3
UGA/17/98	HM211075	n/a	WRLFMD	Uganda	EA-4
GHA/5/93	AJ303488	bovine	WRLFMD	Ghana	WA
ETH/3/2004	FJ798109	cattle	WRLFMD	Ethiopia	EA-3
ETH/1/2007	FJ798137	cattle	WRLFMD	Ethiopia	EA-3
UGA/3/2002	DQ165077	n/a	WRLFMD	Uganda	EA-2
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
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
OMN/7/2001	DQ164941	bovine	WRLFMD	Oman	ME-SA/Ind-2001/b
MUR/19/2016	MG972510	cattle	WRLFMD	Mauritius	ME-SA/Ind-2001/e
Manisa/TUR/69*	AY593823	n/a	PIADC	Turkey	ME-SA
IND/R2/75*	AF204276	n/a	PD-FMD	India	ME-SA
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

\*, not a WRLFMD Reference Number

n/a, not available