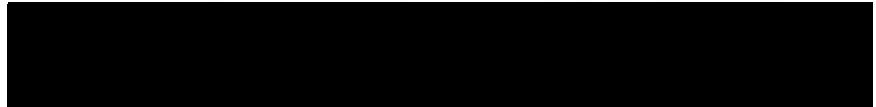




FMD Genotyping Report

Lab Reference WRL batch Number: WRLFMD/2022/00004

Sender Details:

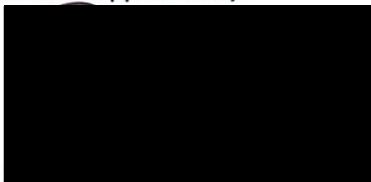


Date Received: 16/03/2022

Country of Origin*: TUNISIA

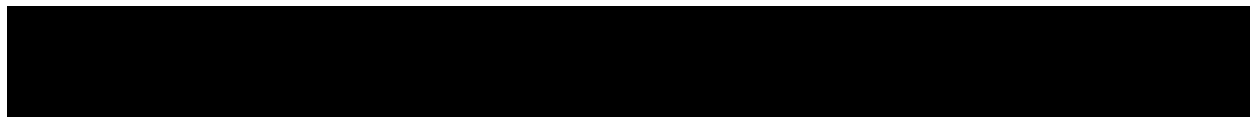
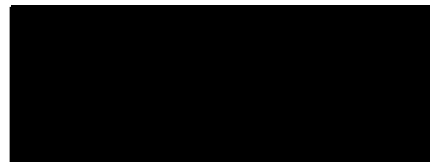
Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at: <http://www.wrlfmd.org/>

Results Approved By:



18/3/2022

Official Stamp:



To help us improve the quality of our service, please send any suggestions or requests to the Reference Laboratory by email (reflabsfeedback@pirbright.ac.uk).

* Data supplied by the customer

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

Genotyping Report

FMDV serotype: O
Country: Tunisia
Year: 2022
Batch: WRLFMD/2022/00004
No. of sequences: 3
Report date: 5th April 2022
Report generated by: Nick Knowles
Report checked by: Jemma Wadsworth



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

email: reporting@pirbright.ac.uk

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Virus sample name:	TUN/1/2022
Sender reference:	O/TUN/22ZZ745/22
Location of origin:	n/a
Country of origin:	Tunisia
Date of collection:	04/01/2022
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	22/03/2022
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	31/03/2022
Created:	05/04/2022
Last updated:	05/04/2022
VIBASys IDs: sample 50478, genome 50479, sequence viba_50480, sequencing info 50481	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50078	TUN/22Z745/22	cattle	100.0	0	O	EA-3		
viba_50118	TUN/22Z994/22	cattle	100.0	0	O	EA-3		
viba_50484	TUN/2/2022	cattle	100.0	0	O	EA-3		
viba_50126	TUN/22Z996/22	cattle	100.0	0	O	EA-3		
viba_49972	TUN/V1/22	cattle	100.0	0	O	EA-3		
viba_50102	TUN/22Z752/22	cattle	100.0	0	O	EA-3		
viba_50086	TUN/22Z747/22	cattle	100.0	0	O	EA-3		
viba_50094	TUN/22Z750/22	cattle	100.0	0	O	EA-3		
viba_50114	TUN/22Z756/22	cattle	100.0	0	O	EA-3		
viba_50098	TUN/22Z751/22	cattle	100.0	0	O	EA-3		

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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_50	UGA/17/98		85.6	0	O	EA-4		
viba_854	ETH/1/2007	cattle	85.2	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	84.5	0	O	ME-SA	Ind-2001	e
viba_408	ETH/3/2004	cattle	84.3	0	O	EA-3		
viba_104	GHA/5/93	bovine	84.2	0	O	WA		
viba_85	UGA/3/2002		83.7	0	O	EA-2		
viba_285	UKG/35/2001	porcine	83.6	0	O	ME-SA	PanAsia	
viba_68	TAI/189/87	bovine	83.5	0	O	SEA		
viba_523	K83/79		83.4	0	O	EA-1		

Virus sample name:	TUN/2/2022
Sender reference:	O/TUN/22ZZ749/22
Location of origin:	n/a
Country of origin:	Tunisia
Date of collection:	04/01/2022
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	22/03/2022
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	31/03/2022
Created:	05/04/2022
Last updated:	05/04/2022
VIBASys IDs: sample 50482, genome 50483, sequence viba_50484, sequencing info 50485	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50078	TUN/22Z745/22	cattle	100.0	0	O	EA-3		
viba_50118	TUN/22Z994/22	cattle	100.0	0	O	EA-3		
viba_50126	TUN/22Z996/22	cattle	100.0	0	O	EA-3		
viba_49972	TUN/V1/22	cattle	100.0	0	O	EA-3		
viba_50102	TUN/22Z752/22	cattle	100.0	0	O	EA-3		
viba_50480	TUN/1/2022	cattle	100.0	0	O	EA-3		
viba_50086	TUN/22Z747/22	cattle	100.0	0	O	EA-3		
viba_50094	TUN/22Z750/22	cattle	100.0	0	O	EA-3		
viba_50114	TUN/22Z756/22	cattle	100.0	0	O	EA-3		
viba_50098	TUN/22Z751/22	cattle	100.0	0	O	EA-3		

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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_50	UGA/17/98		85.6	0	O	EA-4		
viba_854	ETH/1/2007	cattle	85.2	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	84.5	0	O	ME-SA	Ind-2001	e
viba_408	ETH/3/2004	cattle	84.3	0	O	EA-3		
viba_104	GHA/5/93	bovine	84.2	0	O	WA		
viba_85	UGA/3/2002		83.7	0	O	EA-2		
viba_285	UKG/35/2001	porcine	83.6	0	O	ME-SA	PanAsia	
viba_68	TAI/189/87	bovine	83.5	0	O	SEA		
viba_523	K83/79		83.4	0	O	EA-1		

Virus sample name:	TUN/3/2022
Sender reference:	O/TUN/22ZZ753/22
Location of origin:	n/a
Country of origin:	Tunisia
Date of collection:	05/01/2022
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	WRL-LFBK1
Harvest date of material:	22/03/2022
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R; FMD-3161F/FMD-4303R
Received for sequencing:	31/03/2022
Created:	05/04/2022
Last updated:	05/04/2022
VIBASys IDs: sample 50486, genome 50487, sequence viba_50488, sequencing info 50489	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_50106	TUN/22Z753/22	cattle	100.0	0	O	EA-3		
viba_50110	TUN/22Z754/22	cattle	100.0	0	O	EA-3		
viba_50090	TUN/22Z749/22	cattle	100.0	0	O	EA-3		
viba_50078	TUN/22Z745/22	cattle	99.8	0	O	EA-3		
viba_50118	TUN/22Z994/22	cattle	99.8	0	O	EA-3		
viba_50484	TUN/2/2022	cattle	99.8	0	O	EA-3		
viba_50126	TUN/22Z996/22	cattle	99.8	0	O	EA-3		
viba_49972	TUN/V1/22	cattle	99.8	0	O	EA-3		
viba_50102	TUN/22Z752/22	cattle	99.8	0	O	EA-3		
viba_50480	TUN/1/2022	cattle	99.8	0	O	EA-3		

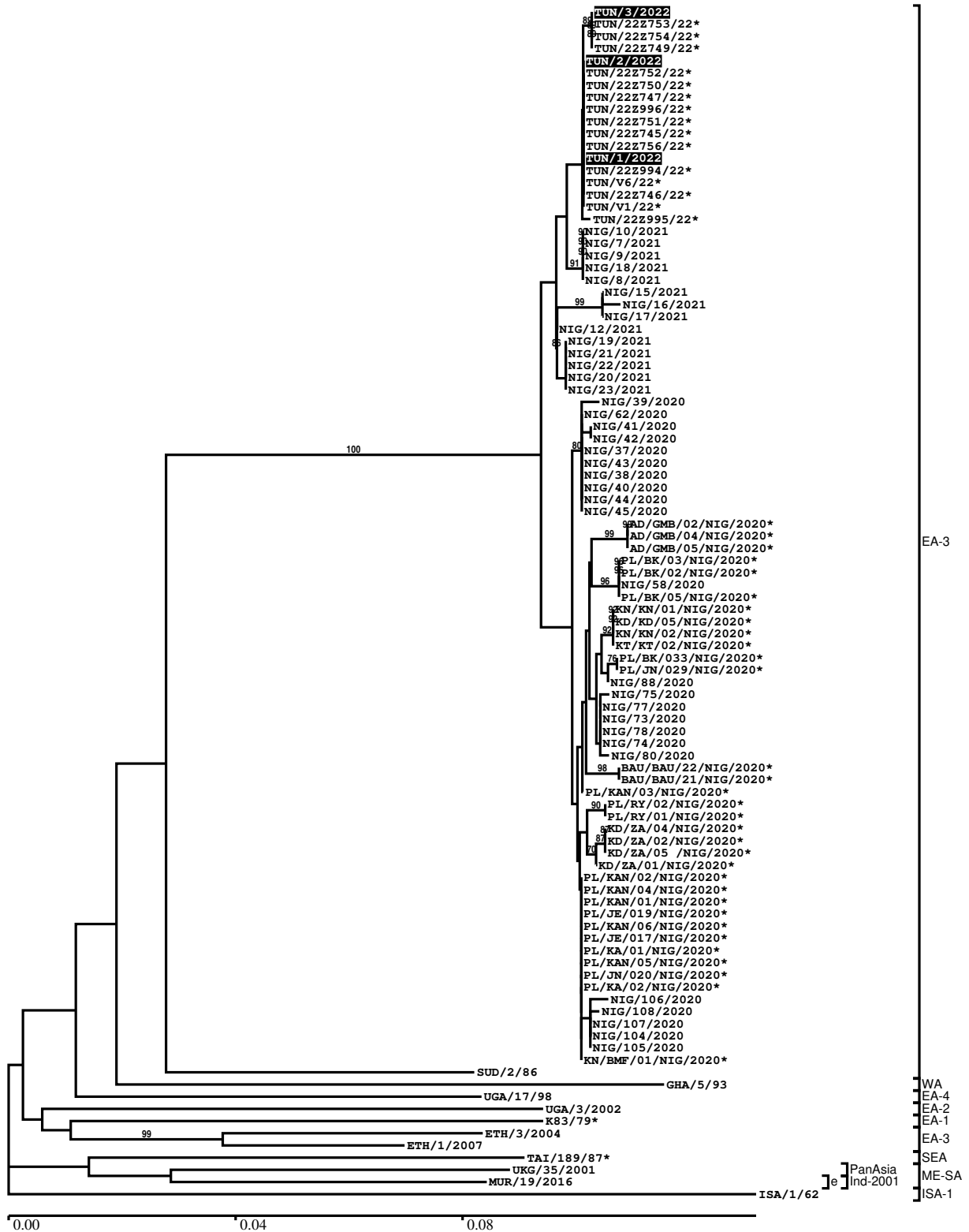
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_116	SUD/2/86	bovine	88.5	0	O	EA-3		
viba_50	UGA/17/98		85.5	0	O	EA-4		
viba_854	ETH/1/2007	cattle	85.3	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	84.6	0	O	ME-SA	Ind-2001	e
viba_104	GHA/5/93	bovine	84.4	0	O	WA		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_85	UGA/3/2002		83.6	0	O	EA-2		
viba_523	K83/79		83.6	0	O	EA-1		
viba_285	UKG/35/2001	porcine	83.4	0	O	ME-SA	PanAsia	
viba_68	TAI/189/87	bovine	83.3	0	O	SEA		

Report on FMDV O in Tunisia in 2022

Batch: WRLFMD/2022/00004



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLFMD/2022/00004-Tunisia-O (3 sequences)
Sequence database set:	allseqs_O (5565 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:	10
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/3/2022	n/a	cattle	WRLFMD	Tunisia	EA-3
TUN/22Z753/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z754/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z749/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/2/2022	n/a	cattle	WRLFMD	Tunisia	EA-3
TUN/22Z752/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z750/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z747/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z996/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z751/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z745/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z756/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/1/2022	n/a	cattle	WRLFMD	Tunisia	EA-3
TUN/22Z994/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/V6/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z746/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/V1/22*	n/a	cattle	ANSES	Tunisia	EA-3
TUN/22Z995/22*	n/a	cattle	ANSES	Tunisia	EA-3
NIG/10/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/7/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/9/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/18/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/8/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/15/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/16/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/17/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/12/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/19/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/21/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/22/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/20/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/23/2021	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/39/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/62/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/41/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/42/2020	n/a	cattle	WRLFMD	Nigeria	EA-3

continued on next page

label	accession	host(s)	lab	country	taxonomic information
NIG/37/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/43/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/38/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/40/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/44/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/45/2020	n/a	sheep	WRLFMD	Nigeria	EA-3
AD/GMB/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
AD/GMB/04/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
AD/GMB/05/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/BK/03/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/BK/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
NIG/58/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
PL/BK/05/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KN/KN/01/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KD/KD/05/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KN/KN/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KT/KT/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/BK/033/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/JN/029/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
NIG/88/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/75/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/77/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/73/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/78/2020	n/a	sheep	WRLFMD	Nigeria	EA-3
NIG/74/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/80/2020	n/a	sheep	WRLFMD	Nigeria	EA-3
BAU/BAU/22/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
BAU/BAU/21/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KAN/03/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/RV/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/RV/01/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KD/ZA/04/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KD/ZA/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KD/ZA/05 /NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
KD/ZA/01/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KAN/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KAN/04/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KAN/01/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/JE/019/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KAN/06/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/JE/017/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KA/01/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KAN/05/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/JN/020/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
PL/KA/02/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
NIG/106/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/108/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/107/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/104/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/105/2020	n/a	cattle	WRLFMD	Nigeria	EA-3
KN/BMF/01/NIG/2020*	n/a	cattle	NCFAD/NVRI	Nigeria	EA-3
SUD/2/86	DQ165075	bovine	WRLFMD	Sudan	EA-3
GHA/5/93	AJ303488	bovine	WRLFMD	Ghana	WA
UGA/17/98	HM211075	n/a	WRLFMD	Uganda	EA-4
UGA/3/2002	DQ165077	n/a	WRLFMD	Uganda	EA-2
K83/79*	AJ303511	n/a	WRLFMD	Kenya	EA-1
ETH/3/2004	FJ798109	cattle	WRLFMD	Ethiopia	EA-3
ETH/1/2007	FJ798137	cattle	WRLFMD	Ethiopia	EA-3
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
MUR/19/2016	MG972510	cattle	WRLFMD	Mauritius	ME-SA/Ind-2001/e
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

*, not a WRLFMD Reference Number

n/a, not available