

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

Genotyping Report

FMDV serotype: O
Country: Nigeria
Year: 2013, 2014, 2015, 2017
Batch: WRLMEG/2020/00038
No. of sequences: 14
Report date: 17th December 2020
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:	NIG/08/2013
Sender reference:	O/NIG/8/2013
Location of origin:	Jema'a, Kaduna state
Country of origin:	Nigeria
Date of collection:	27/06/2013
Host species:	cattle
Serotype:	O
Topotype:	WA
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46002, genome 46003, sequence viba_46004, sequencing info 46005	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46008	NIG/09/2013	cattle	99.5	0	O	WA		
viba_20045	NIG/4/2012	bovine	99.1	0	O	WA		
viba_20049	NIG/5/2012	bovine	99.1	0	O	WA		
viba_31617	NIG/7/13	bovine	98.9	0	O	WA		
viba_31613	NIG/6/13	bovine	98.9	0	O	WA		
viba_31609	NIG/1/13	bovine	98.7	0	O	WA		
viba_30896	CAR/786/2012	cattle	98.3	0	O	WA		
viba_30884	CAR/773/2012	cattle	98.3	0	O	WA		
viba_30888	CAR/776/2012	cattle	98.3	0	O	WA		
viba_30880	CAR/769/2012	cattle	98.3	0	O	WA		

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_104	GHA/5/93	bovine	86.6	0	O	WA		
viba_302	CIV/8/99	bovine	86.3	0	O	WA		
viba_116	SUD/2/86	bovine	84.9	0	O	EA-3		
viba_850	NEP/1/2015	cattle	84.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_705	KUW/3/97	bovine	84.6	0	O	ME-SA	Ind-2001	a
viba_359	Manisa/TUR/69		84.4	0	O	ME-SA		
viba_505	TUR/264/2009		84.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_30238	MUR/19/2016	cattle	83.9	0	O	ME-SA	Ind-2001	e
viba_576	IND/R2/75		83.9	0	O	ME-SA		
viba_354	PAK/16/2010	cattle	83.9	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NIG/09/2013
Sender reference:	O/NIG/9/2013
Location of origin:	Jema'a, Kaduna state
Country of origin:	Nigeria
Date of collection:	27/06/2013
Host species:	cattle
Serotype:	O
Topotype:	WA
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46006, genome 46007, sequence viba_46008, sequencing info 46009	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46004	NIG/08/2013	cattle	99.5	0	O	WA		
viba_20045	NIG/4/2012	bovine	98.6	0	O	WA		
viba_20049	NIG/5/2012	bovine	98.6	0	O	WA		
viba_31617	NIG/7/13	bovine	98.4	0	O	WA		
viba_31613	NIG/6/13	bovine	98.4	0	O	WA		
viba_31609	NIG/1/13	bovine	98.3	0	O	WA		
viba_30896	CAR/786/2012	cattle	97.8	0	O	WA		
viba_30884	CAR/773/2012	cattle	97.8	0	O	WA		
viba_30888	CAR/776/2012	cattle	97.8	0	O	WA		
viba_30880	CAR/769/2012	cattle	97.8	0	O	WA		

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_104	GHA/5/93	bovine	86.1	0	O	WA		
viba_302	CIV/8/99	bovine	85.8	0	O	WA		
viba_850	NEP/1/2015	cattle	84.9	1	O	ME-SA	PanAsia-2	KAT-15
viba_705	KUW/3/97	bovine	84.5	0	O	ME-SA	Ind-2001	a
viba_116	SUD/2/86	bovine	84.5	0	O	EA-3		
viba_359	Manisa/TUR/69		84.2	0	O	ME-SA		
viba_541	OMN/7/2001	bovine	83.8	0	O	ME-SA	Ind-2001	b
viba_576	IND/R2/75		83.8	0	O	ME-SA		
viba_505	TUR/264/2009		83.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_354	PAK/16/2010	cattle	83.7	0	O	ME-SA	PanAsia-2	PUN-10

Virus sample name:	NIG/13/2014
Sender reference:	O/NIG/13/2014
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	23/03/2014
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	1
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46010, genome 46011, sequence viba_46012, sequencing info 46013	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31621	NIG/1/14	bovine	99.8	0	O	EA-3		
viba_31625	NIG/3/14	bovine	99.8	0	O	EA-3		
viba_46024	NIG/16/2014	cattle	99.8	0	O	EA-3		
viba_31645	NIG/9/14	bovine	99.7	0	O	EA-3		
viba_31641	NIG/7/14	bovine	99.7	1	O	EA-3		
viba_46020	NIG/15/2014	cattle	99.7	0	O	EA-3		
viba_46016	NIG/14/2014	cattle	99.7	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	99.5	0	O	EA-3		
viba_31633	NIG/5/14	bovine	99.5	1	O	EA-3		
viba_40825	Nig/12/14	bovine	99.5	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	90.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.4	0	O	EA-3		
viba_408	ETH/3/2004	cattle	86.0	0	O	EA-3		
viba_85	UGA/3/2002		85.0	0	O	EA-2		
viba_523	K83/79		85.0	0	O	EA-1		
viba_30238	MUR/19/2016	cattle	84.9	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.9	0	O	EA-4		
viba_62	ETH/2/2006	bovine	84.6	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.6	0	O	ME-SA	PanAsia	
viba_541	OMN/7/2001	bovine	84.1	0	O	ME-SA	Ind-2001	b

Virus sample name:	NIG/14/2014
Sender reference:	O/NIG/14/2014
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	09/06/2014
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46014, genome 46015, sequence viba_46016, sequencing info 46017	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31621	NIG/1/14	bovine	99.8	0	O	EA-3		
viba_31625	NIG/3/14	bovine	99.8	0	O	EA-3		
viba_46024	NIG/16/2014	cattle	99.8	0	O	EA-3		
viba_31645	NIG/9/14	bovine	99.7	0	O	EA-3		
viba_31641	NIG/7/14	bovine	99.7	1	O	EA-3		
viba_46012	NIG/13/2014	cattle	99.7	1	O	EA-3		
viba_46020	NIG/15/2014	cattle	99.7	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	99.5	0	O	EA-3		
viba_31633	NIG/5/14	bovine	99.5	1	O	EA-3		
viba_40825	Nig/12/14	bovine	99.5	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	90.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.8	0	O	EA-3		
viba_50	UGA/17/98		85.1	0	O	EA-4		
viba_523	K83/79		85.0	0	O	EA-1		
viba_30238	MUR/19/2016	cattle	84.9	0	O	ME-SA	Ind-2001	e
viba_85	UGA/3/2002		84.9	0	O	EA-2		
viba_62	ETH/2/2006	bovine	84.5	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.4	0	O	ME-SA	PanAsia	
viba_104	GHA/5/93	bovine	84.1	0	O	WA		

Virus sample name:	NIG/15/2014
Sender reference:	O/NIG/15/2014
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	18/07/2014
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46018, genome 46019, sequence viba_46020, sequencing info 46021	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31621	NIG/1/14	bovine	99.8	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	99.8	0	O	EA-3		
viba_31633	NIG/5/14	bovine	99.8	1	O	EA-3		
viba_40825	Nig/12/14	bovine	99.8	0	O	EA-3		
viba_31625	NIG/3/14	bovine	99.8	0	O	EA-3		
viba_46024	NIG/16/2014	cattle	99.8	0	O	EA-3		
viba_31637	NIG/6/14	bovine	99.7	0	O	EA-3		
viba_31645	NIG/9/14	bovine	99.7	0	O	EA-3		
viba_46032	NIG/03/2015	cattle	99.7	0	O	EA-3		
viba_31641	NIG/7/14	bovine	99.7	1	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	90.5	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.8	0	O	EA-3		
viba_85	UGA/3/2002		85.2	0	O	EA-2		
viba_50	UGA/17/98		85.2	0	O	EA-4		
viba_30238	MUR/19/2016	cattle	85.1	0	O	ME-SA	Ind-2001	e
viba_523	K83/79		84.9	0	O	EA-1		
viba_62	ETH/2/2006	bovine	84.8	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.4	0	O	ME-SA	PanAsia	
viba_104	GHA/5/93	bovine	84.2	0	O	WA		

Virus sample name:	NIG/16/2014
Sender reference:	O/NIG/16/2014
Location of origin:	Barkin Ladi, Plateau state
Country of origin:	Nigeria
Date of collection:	20/07/2014
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46022, genome 46023, sequence viba_46024, sequencing info 46025	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31621	NIG/1/14	bovine	100.0	0	O	EA-3		
viba_31625	NIG/3/14	bovine	100.0	0	O	EA-3		
viba_31645	NIG/9/14	bovine	99.8	0	O	EA-3		
viba_31641	NIG/7/14	bovine	99.8	1	O	EA-3		
viba_46012	NIG/13/2014	cattle	99.8	1	O	EA-3		
viba_46020	NIG/15/2014	cattle	99.8	0	O	EA-3		
viba_46016	NIG/14/2014	cattle	99.8	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	99.7	0	O	EA-3		
viba_31633	NIG/5/14	bovine	99.7	1	O	EA-3		
viba_40825	Nig/12/14	bovine	99.7	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	90.4	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.4	0	O	EA-3		
viba_408	ETH/3/2004	cattle	86.0	0	O	EA-3		
viba_50	UGA/17/98		85.1	0	O	EA-4		
viba_85	UGA/3/2002		85.0	0	O	EA-2		
viba_523	K83/79		85.0	0	O	EA-1		
viba_30238	MUR/19/2016	cattle	84.9	0	O	ME-SA	Ind-2001	e
viba_62	ETH/2/2006	bovine	84.6	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.6	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	84.3	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	NIG/02/2015
Sender reference:	O/NIG/2/2015
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	14/09/2015
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46026, genome 46027, sequence viba_46028, sequencing info 46029	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46020	NIG/15/2014	cattle	99.8	0	O	EA-3		
viba_31621	NIG/1/14	bovine	99.7	0	O	EA-3		
viba_31633	NIG/5/14	bovine	99.7	1	O	EA-3		
viba_40825	Nig/12/14	bovine	99.7	0	O	EA-3		
viba_31625	NIG/3/14	bovine	99.7	0	O	EA-3		
viba_46024	NIG/16/2014	cattle	99.7	0	O	EA-3		
viba_31637	NIG/6/14	bovine	99.5	0	O	EA-3		
viba_31645	NIG/9/14	bovine	99.5	0	O	EA-3		
viba_46032	NIG/03/2015	cattle	99.5	0	O	EA-3		
viba_31641	NIG/7/14	bovine	99.5	1	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	90.5	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.6	0	O	EA-3		
viba_50	UGA/17/98		85.2	0	O	EA-4		
viba_30238	MUR/19/2016	cattle	85.1	0	O	ME-SA	Ind-2001	e
viba_85	UGA/3/2002		85.0	0	O	EA-2		
viba_523	K83/79		84.9	0	O	EA-1		
viba_62	ETH/2/2006	bovine	84.6	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.5	0	O	ME-SA	PanAsia	
viba_104	GHA/5/93	bovine	84.1	0	O	WA		

Virus sample name:	NIG/03/2015
Sender reference:	O/NIG/3/2015
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	14/09/2015
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46030, genome 46031, sequence viba_46032, sequencing info 46033	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46020	NIG/15/2014	cattle	99.7	0	O	EA-3		
viba_31621	NIG/1/14	bovine	99.5	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	99.5	0	O	EA-3		
viba_31633	NIG/5/14	bovine	99.5	1	O	EA-3		
viba_40825	Nig/12/14	bovine	99.5	0	O	EA-3		
viba_31625	NIG/3/14	bovine	99.5	0	O	EA-3		
viba_46024	NIG/16/2014	cattle	99.5	0	O	EA-3		
viba_31637	NIG/6/14	bovine	99.4	0	O	EA-3		
viba_31645	NIG/9/14	bovine	99.4	0	O	EA-3		
viba_31641	NIG/7/14	bovine	99.4	1	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	90.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.1	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.4	0	O	EA-3		
viba_85	UGA/3/2002		85.0	0	O	EA-2		
viba_62	ETH/2/2006	bovine	84.8	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	84.7	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.7	0	O	EA-4		
viba_523	K83/79		84.7	0	O	EA-1		
viba_293	BHU/3/2009	cattle	84.5	0	O	ME-SA	Ind-2001	d
viba_285	UKG/35/2001	porcine	84.4	0	O	ME-SA	PanAsia	

Virus sample name:	NIG/001/2017
Sender reference:	O/NIG/1/2017
Location of origin:	Barkin Ladi, Plateau state
Country of origin:	Nigeria
Date of collection:	03/08/2017
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46034, genome 46035, sequence viba_46036, sequencing info 46037	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46048	NIG/4/2017	cattle	99.8	0	O	EA-3		
viba_46044	NIG/3/2017	cattle	99.7	0	O	EA-3		
viba_46040	NIG/2/2017	cattle	99.1	0	O	EA-3		
viba_46056	NIG/6/2017	cattle	98.9	0	O	EA-3		
viba_40992	NIG/1/16b	cattle	98.4	0	O	EA-3		
viba_40996	NIG/2/16b	cattle	98.4	0	O	EA-3		
viba_41000	NIG/3/16b	cattle	98.4	0	O	EA-3		
viba_46020	NIG/15/2014	cattle	97.6	0	O	EA-3		
viba_31621	NIG/1/14	bovine	97.5	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	97.5	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	89.6	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.8	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.3	0	O	EA-3		
viba_85	UGA/3/2002		85.1	0	O	EA-2		
viba_523	K83/79		84.5	0	O	EA-1		
viba_30238	MUR/19/2016	cattle	84.2	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.2	0	O	EA-4		
viba_62	ETH/2/2006	bovine	84.0	0	O	EA-3		
viba_104	GHA/5/93	bovine	83.8	0	O	WA		
viba_576	IND/R2/75		83.6	0	O	ME-SA		

Virus sample name:	NIG/2/2017
Sender reference:	O/NIG/2/2017
Location of origin:	Toro, Bauchi state
Country of origin:	Nigeria
Date of collection:	05/08/2017
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46038, genome 46039, sequence viba_46040, sequencing info 46041	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46044	NIG/3/2017	cattle	99.4	0	O	EA-3		
viba_46056	NIG/6/2017	cattle	99.2	0	O	EA-3		
viba_46048	NIG/4/2017	cattle	99.2	0	O	EA-3		
viba_46036	NIG/001/2017	cattle	99.1	0	O	EA-3		
viba_40992	NIG/1/16b	cattle	98.7	0	O	EA-3		
viba_40996	NIG/2/16b	cattle	98.7	0	O	EA-3		
viba_41000	NIG/3/16b	cattle	98.7	0	O	EA-3		
viba_46020	NIG/15/2014	cattle	97.8	0	O	EA-3		
viba_31621	NIG/1/14	bovine	97.6	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	97.6	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	89.9	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.1	0	O	EA-3		
viba_85	UGA/3/2002		85.4	0	O	EA-2		
viba_408	ETH/3/2004	cattle	85.3	0	O	EA-3		
viba_523	K83/79		84.7	0	O	EA-1		
viba_50	UGA/17/98		84.5	0	O	EA-4		
viba_30238	MUR/19/2016	cattle	84.2	0	O	ME-SA	Ind-2001	e
viba_62	ETH/2/2006	bovine	84.2	0	O	EA-3		
viba_104	GHA/5/93	bovine	84.1	0	O	WA		
viba_576	IND/R2/75		83.9	0	O	ME-SA		

Virus sample name:	NIG/3/2017
Sender reference:	O/NIG/3/2017
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	25/08/2017
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46042, genome 46043, sequence viba_46044, sequencing info 46045	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46048	NIG/4/2017	cattle	99.8	0	O	EA-3		
viba_46036	NIG/001/2017	cattle	99.7	0	O	EA-3		
viba_46040	NIG/2/2017	cattle	99.4	0	O	EA-3		
viba_46056	NIG/6/2017	cattle	99.2	0	O	EA-3		
viba_40992	NIG/1/16b	cattle	98.7	0	O	EA-3		
viba_40996	NIG/2/16b	cattle	98.7	0	O	EA-3		
viba_41000	NIG/3/16b	cattle	98.7	0	O	EA-3		
viba_46020	NIG/15/2014	cattle	97.9	0	O	EA-3		
viba_31621	NIG/1/14	bovine	97.8	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	97.8	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	89.9	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.1	0	O	EA-3		
viba_85	UGA/3/2002		85.4	0	O	EA-2		
viba_408	ETH/3/2004	cattle	85.3	0	O	EA-3		
viba_523	K83/79		84.9	0	O	EA-1		
viba_50	UGA/17/98		84.5	0	O	EA-4		
viba_62	ETH/2/2006	bovine	84.3	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	84.2	0	O	ME-SA	Ind-2001	e
viba_104	GHA/5/93	bovine	84.1	0	O	WA		
viba_576	IND/R2/75		83.9	0	O	ME-SA		

Virus sample name:	NIG/4/2017
Sender reference:	O/NIG/4/2017
Location of origin:	Jos South, Plateau state
Country of origin:	Nigeria
Date of collection:	28/08/2017
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46046, genome 46047, sequence viba_46048, sequencing info 46049	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46036	NIG/001/2017	cattle	99.8	0	O	EA-3		
viba_46044	NIG/3/2017	cattle	99.8	0	O	EA-3		
viba_46040	NIG/2/2017	cattle	99.2	0	O	EA-3		
viba_46056	NIG/6/2017	cattle	99.1	0	O	EA-3		
viba_40992	NIG/1/16b	cattle	98.6	0	O	EA-3		
viba_40996	NIG/2/16b	cattle	98.6	0	O	EA-3		
viba_41000	NIG/3/16b	cattle	98.6	0	O	EA-3		
viba_46020	NIG/15/2014	cattle	97.8	0	O	EA-3		
viba_31621	NIG/1/14	bovine	97.6	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	97.6	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	89.7	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.9	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.5	0	O	EA-3		
viba_85	UGA/3/2002		85.2	0	O	EA-2		
viba_523	K83/79		84.7	0	O	EA-1		
viba_30238	MUR/19/2016	cattle	84.4	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.4	0	O	EA-4		
viba_62	ETH/2/2006	bovine	84.2	0	O	EA-3		
viba_104	GHA/5/93	bovine	83.9	0	O	WA		
viba_576	IND/R2/75		83.8	0	O	ME-SA		

Virus sample name:	NIG/5/2017
Sender reference:	O/NIG/5/2017
Location of origin:	Mangu, Plateau state
Country of origin:	Nigeria
Date of collection:	31/08/2017
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46050, genome 46051, sequence viba_46052, sequencing info 46053	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_30965	NIG/5/2016	cattle	98.4	0	O	EA-3		
viba_41020	NIG/8/16b	cattle	98.4	0	O	EA-3		
viba_41012	NIG/6/16b	cattle	98.4	0	O	EA-3		
viba_31009	NIG/17/2016	cattle	98.4	0	O	EA-3		
viba_31017	NIG/19/2016	cattle	98.4	0	O	EA-3		
viba_30961	NIG/4/2016	cattle	98.4	0	O	EA-3		
viba_41032	NIG/11/16b	cattle	98.4	0	O	EA-3		
viba_41024	NIG/9/16b	cattle	98.4	0	O	EA-3		
viba_41008	NIG/5/16b	cattle	98.4	0	O	EA-3		
viba_41028	NIG/10/16b	cattle	98.4	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_854	ETH/1/2007	cattle	85.0	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.5	0	O	EA-3		
viba_30238	MUR/19/2016	cattle	84.4	0	O	ME-SA	Ind-2001	e
viba_50	UGA/17/98		84.0	0	O	EA-4		
viba_285	UKG/35/2001	porcine	83.4	0	O	ME-SA	PanAsia	
viba_104	GHA/5/93	bovine	83.3	0	O	WA		
viba_523	K83/79		83.3	0	O	EA-1		
viba_576	IND/R2/75		83.1	0	O	ME-SA		
viba_62	ETH/2/2006	bovine	83.1	0	O	EA-3		

Virus sample name:	NIG/6/2017
Sender reference:	O/NIG/6/2017
Location of origin:	Jos East, Plateau state
Country of origin:	Nigeria
Date of collection:	26/09/2017
Host species:	cattle
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:	16/12/2020
Last updated:	16/12/2020
VIBASys IDs: sample 46054, genome 46055, sequence viba_46056, sequencing info 46057	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_46044	NIG/3/2017	cattle	99.2	0	O	EA-3		
viba_46040	NIG/2/2017	cattle	99.2	0	O	EA-3		
viba_46048	NIG/4/2017	cattle	99.1	0	O	EA-3		
viba_46036	NIG/001/2017	cattle	98.9	0	O	EA-3		
viba_40992	NIG/1/16b	cattle	98.6	0	O	EA-3		
viba_40996	NIG/2/16b	cattle	98.6	0	O	EA-3		
viba_41000	NIG/3/16b	cattle	98.6	0	O	EA-3		
viba_46020	NIG/15/2014	cattle	97.6	0	O	EA-3		
viba_31621	NIG/1/14	bovine	97.5	0	O	EA-3		
viba_46028	NIG/02/2015	cattle	97.5	0	O	EA-3		

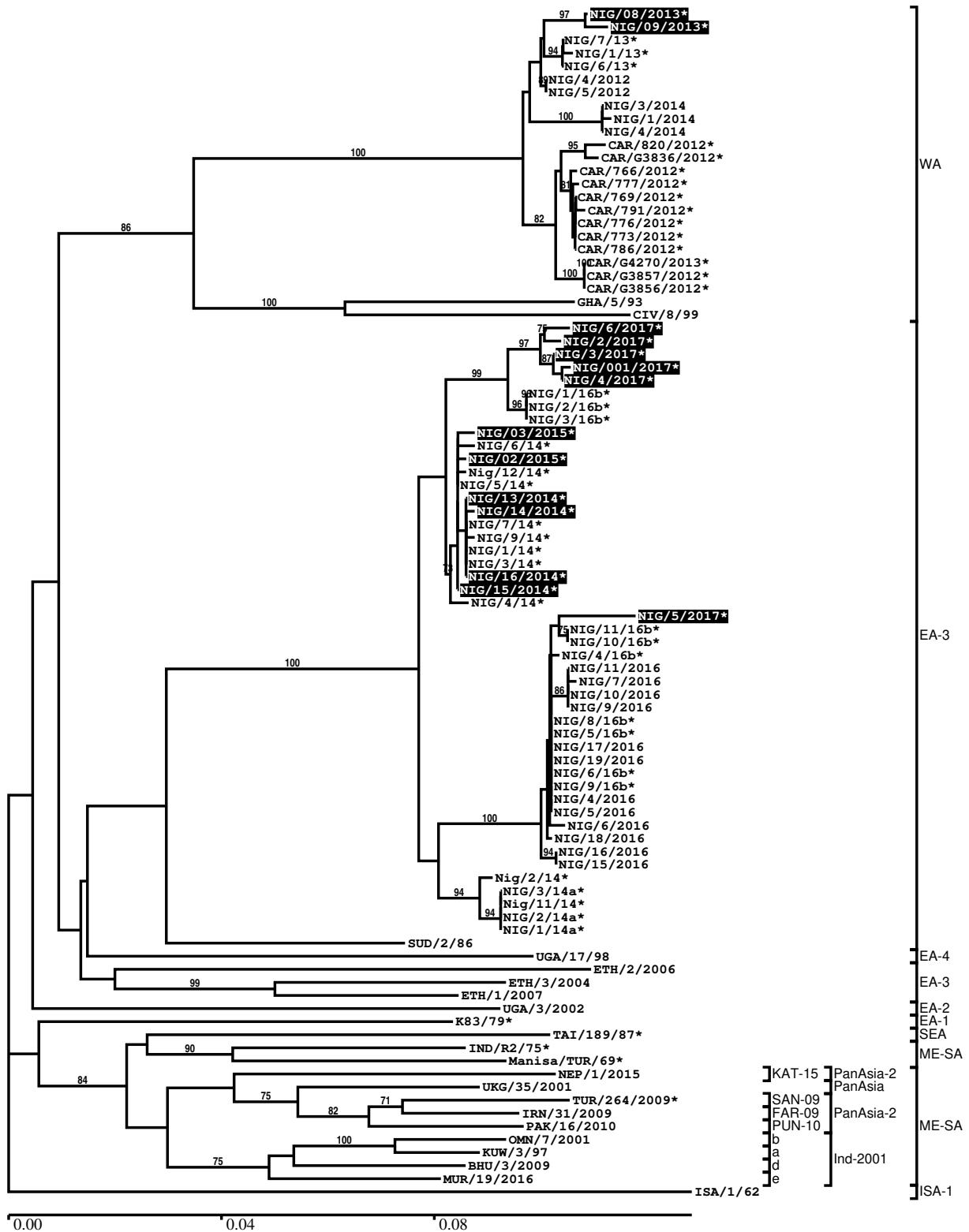
Most Closely Related Prototype Sequences

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	90.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.5	0	O	EA-3		
viba_85	UGA/3/2002		85.5	0	O	EA-2		
viba_523	K83/79		84.7	0	O	EA-1		
viba_50	UGA/17/98		84.5	0	O	EA-4		
viba_62	ETH/2/2006	bovine	84.3	0	O	EA-3		
viba_104	GHA/5/93	bovine	84.2	0	O	WA		
viba_30238	MUR/19/2016	cattle	84.2	0	O	ME-SA	Ind-2001	e
viba_576	IND/R2/75		83.9	0	O	ME-SA		

Report on FMDV O in Nigeria in 2013, 2014, 2015, 2017

Batch: WRLMEG/2020/00038



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor: vp1_O
 Query sequence set: WRLMEG/2020/00038-Nigeria-O (14 sequences)
 Sequence database set: allseqs_O (4829 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: 20
 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
NIG/08/2013*	MT239372	cattle	Sciensano	Nigeria	WA
NIG/09/2013*	MT239373	cattle	Sciensano	Nigeria	WA
NIG/7/13*	KY019289	bovine	CODA-CERVA	Nigeria	WA
NIG/1/13*	KY019287	bovine	CODA-CERVA	Nigeria	WA
NIG/6/13*	KY019288	bovine	CODA-CERVA	Nigeria	WA
NIG/4/2012	KX258026	bovine	WRLFMD	Nigeria	WA
NIG/5/2012	KX258027	bovine	WRLFMD	Nigeria	WA
NIG/3/2014	KX258030	bovine	WRLFMD	Nigeria	WA
NIG/1/2014	KX258028	bovine	WRLFMD	Nigeria	WA
NIG/4/2014	KX258031	bovine	WRLFMD	Nigeria	WA
CAR/820/2012*	KU720581	cattle	PIADC	Cameroon	WA
CAR/G3836/2012*	KY581682	cattle	PIADC	Cameroon	WA
CAR/766/2012*	KU720574	cattle	PIADC	Cameroon	WA
CAR/777/2012*	KU720578	cattle	PIADC	Cameroon	WA
CAR/769/2012*	KU720575	cattle	PIADC	Cameroon	WA
CAR/791/2012*	KU720580	cattle	PIADC	Cameroon	WA
CAR/776/2012*	KU720577	cattle	PIADC	Cameroon	WA
CAR/773/2012*	KU720576	cattle	PIADC	Cameroon	WA
CAR/786/2012*	KU720579	cattle	PIADC	Cameroon	WA
CAR/G4270/2013*	MH383081	cattle	PIADC	Cameroon	WA
CAR/G3857/2012*	MH383077	cattle	PIADC	Cameroon	WA
CAR/G3856/2012*	KY581681	cattle	PIADC	Cameroon	WA
GHA/5/93	AJ303488	bovine	WRLFMD	Ghana	WA
CIV/8/99	AJ303485	bovine	WRLFMD	Cote d'Ivoire	WA
NIG/6/2017*	MT185920	cattle	Sciensano	Nigeria	EA-3
NIG/2/2017*	MT185919	cattle	Sciensano	Nigeria	EA-3
NIG/3/2017*	MT185922	cattle	Sciensano	Nigeria	EA-3
NIG/001/2017*	MT185923	cattle	Sciensano	Nigeria	EA-3
NIG/4/2017*	MT185921	cattle	Sciensano	Nigeria	EA-3
NIG/1/16b*	MH894421	cattle	PIADC	Nigeria	EA-3
NIG/2/16b*	MH894422	cattle	PIADC	Nigeria	EA-3
NIG/3/16b*	MH894423	cattle	PIADC	Nigeria	EA-3
NIG/03/2015*	MT239379	cattle	Sciensano	Nigeria	EA-3
NIG/6/14*	KY065155	bovine	CODA-CERVA	Nigeria	EA-3
NIG/02/2015*	MT239378	cattle	Sciensano	Nigeria	EA-3
Nig/12/14*	MF683469	bovine	CODA-CERVA	Nigeria	EA-3

continued on next page

label	accession	host(s)	lab	country	taxonomic information
NIG/5/14*	KY065154	bovine	CODA-CERVA	Nigeria	EA-3
NIG/13/2014*	MT239374	cattle	Sciensano	Nigeria	EA-3
NIG/14/2014*	MT239375	cattle	Sciensano	Nigeria	EA-3
NIG/7/14*	KY065151	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
NIG/3/14*	KY065150	bovine	CODA-CERVA	Nigeria	EA-3
NIG/16/2014*	MT239377	cattle	Sciensano	Nigeria	EA-3
NIG/15/2014*	MT239376	cattle	Sciensano	Nigeria	EA-3
NIG/4/14*	KY065153	bovine	CODA-CERVA	Nigeria	EA-3
NIG/5/2017*	MT185918	cattle	Sciensano	Nigeria	EA-3
NIG/11/16b*	MH894431	cattle	PIADC	Nigeria	EA-3
NIG/10/16b*	MH894430	cattle	PIADC	Nigeria	EA-3
NIG/4/16b*	MH894424	cattle	PIADC	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
NIG/8/16b*	MH894428	cattle	PIADC	Nigeria	EA-3
NIG/5/16b*	MH894425	cattle	PIADC	Nigeria	EA-3
NIG/17/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/19/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/6/16b*	MH894426	cattle	PIADC	Nigeria	EA-3
NIG/9/16b*	MH894429	cattle	PIADC	Nigeria	EA-3
NIG/4/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/5/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/6/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/18/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/16/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
NIG/15/2016	n/a	cattle	WRLFMD	Nigeria	EA-3
Nig/2/14*	MH580467	bovine	Sciensano	Nigeria	EA-3
NIG/3/14a*	MH894420	cattle	PIADC	Nigeria	EA-3
Nig/11/14*	KY041875	bovine	CODA-CERVA	Nigeria	EA-3
NIG/2/14a*	MH894419	cattle	PIADC	Nigeria	EA-3
NIG/1/14a*	MH894418	cattle	PIADC	Nigeria	EA-3
SUD/2/86	DQ165075	bovine	WRLFMD	Sudan	EA-3
UGA/17/98	HM211075	n/a	WRLFMD	Uganda	EA-4
ETH/2/2006	FJ798127	bovine	WRLFMD	Ethiopia	EA-3
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
IND/R2/75*	AF204276	n/a	PD-FMD	India	ME-SA
Manisa/TUR/69*	AY593823	n/a	PIADC	Turkey	ME-SA
NEP/1/2015	MN276045	cattle	WRLFMD	Nepal	ME-SA/PanAsia-2/KAT-15
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
TUR/264/2009*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/SAN-09
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
PAK/16/2010	KY091285	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/PUN-10
OMN/7/2001	DQ164941	bovine	WRLFMD	Oman	ME-SA/Ind-2001/b
KUW/3/97	DQ164904	bovine	WRLFMD	Kuwait	ME-SA/Ind-2001/a
BHU/3/2009	KM921814	cattle	WRLFMD	Bhutan	ME-SA/Ind-2001/d
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