

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

Genotyping Report

FMDV serotype: O
Country: Vietnam
Year: 2015, 2016
Batch: WRLFMD/2016/00037
No. of sequences: 21
Report date: 27th January 2017
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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Virus sample name:	VIT/5/2015
Sender reference:	NCVD F15-33
Location of origin:	Son La
Country of origin:	Vietnam
Date of collection:	02/06/2015
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31410, genome 31411, sequence viba_31412, sequencing info 31413	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31416	VIT/6/2015	cattle	100.0	0	O	ME-SA	Ind-2001	d
viba_31420	VIT/7/2015	porcine	99.7	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_25480	LAO/4/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	99.5	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	99.4	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_25484	LAO/5/2015		99.4	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	95.9	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	92.6	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	92.4	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	90.5	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	90.4	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	90.4	0	O	ME-SA	PanAsia-2	FAR-09
viba_491	TUR/257/2008		89.4	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		89.1	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	89.1	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	89.0	0	O	ME-SA	PanAsia-2	

Virus sample name:	VIT/6/2015
Sender reference:	NCVD F15-34
Location of origin:	Son La
Country of origin:	Vietnam
Date of collection:	02/06/2015
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31414, genome 31415, sequence viba_31416, sequencing info 31417	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31412	VIT/5/2015	cattle	100.0	0	O	ME-SA	Ind-2001	d
viba_31420	VIT/7/2015	porcine	99.7	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_25480	LAO/4/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	99.5	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	99.4	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_25484	LAO/5/2015		99.4	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	95.9	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	92.6	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	92.4	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	90.5	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	90.4	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	90.4	0	O	ME-SA	PanAsia-2	FAR-09
viba_491	TUR/257/2008		89.4	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		89.1	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	89.1	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	89.0	0	O	ME-SA	PanAsia-2	

Virus sample name:	VIT/7/2015
Sender reference:	NCVD F15-45
Location of origin:	Bac Kan
Country of origin:	Vietnam
Date of collection:	06/06/2015
Host species:	porcine
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS2
Harvest date of material:	14/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31418, genome 31419, sequence viba_31420, sequencing info 31421	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_26321	DakLak/VIT/15-16451 B	porcine	99.8	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	99.7	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	99.7	0	O	ME-SA	Ind-2001	d
viba_26317	DakLak/VIT/15-16451 A	porcine	99.7	0	O	ME-SA	Ind-2001	d
viba_31416	VIT/6/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_31412	VIT/5/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_25480	LAO/4/2015		99.5	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	96.2	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	92.9	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	92.7	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	90.8	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	90.7	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	90.7	0	O	ME-SA	PanAsia-2	FAR-09
viba_491	TUR/257/2008		89.7	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		89.4	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	89.4	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	89.3	0	O	ME-SA	PanAsia-2	

Virus sample name:	VIT/8/2015
Sender reference:	NCVD F15-47
Location of origin:	Lao Cai
Country of origin:	Vietnam
Date of collection:	10/07/2015
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31422, genome 31423, sequence viba_31424, sequencing info 31425	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31420	VIT/7/2015	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	99.2	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	99.1	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	99.1	0	O	ME-SA	Ind-2001	d
viba_26317	DakLak/VIT/15-16451 A	porcine	99.1	0	O	ME-SA	Ind-2001	d
viba_31416	VIT/6/2015	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_31412	VIT/5/2015	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		98.9	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	96.1	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	92.7	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	92.6	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	90.7	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	90.5	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	90.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	89.7	0	O	ME-SA	PanAsia-2	
viba_491	TUR/257/2008		89.6	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		89.3	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	89.3	0	O	ME-SA	PanAsia-2	BAL-09

Virus sample name:	VIT/11/2015
Sender reference:	NCVD F15-67
Location of origin:	Yen Bai
Country of origin:	Vietnam
Date of collection:	16/10/2015
Host species:	porcine
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017

VIBASys IDs: sample 31426, genome 31427, sequence viba_31428, sequencing info 31429

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_26300	TAI/27/2015	cattle	99.1	0	O	SEA	Mya-98	
viba_23845	TAI/5/2016	porcine	98.9	0	O	SEA	Mya-98	
viba_25522	MYA/5/2015	bovine	98.7	0	O	SEA	Mya-98	
viba_26296	TAI/26/2015	cattle	98.4	0	O	SEA	Mya-98	
viba_23849	TAI/14/2016	cattle	98.4	0	O	SEA	Mya-98	
viba_26308	TAI/29/2015	cattle	98.3	0	O	SEA	Mya-98	
viba_12886	MYA/5/2009	cattle	93.2	0	O	SEA	Mya-98	
viba_16376	VIT/NCVD-20/2010	cattle	93.2	0	O	SEA	Mya-98	
viba_12890	MYA/6/2009	cattle	93.2	0	O	SEA	Mya-98	
viba_16372	VIT/NCVD-19/2010	cattle	93.2	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	90.1	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	87.4	0	O	SEA		
viba_694	CAM/3/98	bovine	83.9	0	O	SEA	Cam-94	
viba_860	IRN/6/2015	cattle	83.5	0	O	ME-SA	PanAsia-2	QOM-15
viba_491	TUR/257/2008		83.5	0	O	ME-SA	PanAsia-2	TER-08
viba_850	NEP/1/2015	cattle	83.4	1	O	ME-SA	PanAsia-2	KAT-15
viba_666	IRN/18/2010	cattle	82.9	0	O	ME-SA	PanAsia-2	BAL-09
viba_354	PAK/16/2010	cattle	82.6	0	O	ME-SA	PanAsia-2	PUN-10
viba_263	TAN/2/2004	bovine	82.6	0	O	EA-2		
viba_505	TUR/264/2009		82.5	0	O	ME-SA	PanAsia-2	SAN-09

Virus sample name:	VIT/14/2015
Sender reference:	NCVD F15-73
Location of origin:	Lang Son
Country of origin:	Vietnam
Date of collection:	30/10/2015
Host species:	water buffalo
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	13/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31430, genome 31431, sequence viba_31432, sequencing info 31433	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31420	VIT/7/2015	porcine	99.1	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_31416	VIT/6/2015	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_31412	VIT/5/2015	cattle	99.1	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		98.9	0	O	ME-SA	Ind-2001	d
viba_25480	LAO/4/2015		98.9	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	98.9	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	98.7	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	98.7	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	98.7	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	95.6	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	91.9	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	91.8	0	O	ME-SA	Ind-2001	a
viba_766	IRN/31/2009	cattle	90.1	0	O	ME-SA	PanAsia-2	FAR-09
viba_397	UAE/4/2008	gazelle	90.0	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	89.7	0	O	ME-SA	PanAsia	
viba_491	TUR/257/2008		89.1	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		88.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	88.8	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	88.7	0	O	ME-SA	PanAsia-2	

Virus sample name:	VIT/15/2015
Sender reference:	NCVD F15-76
Location of origin:	Yen Bai
Country of origin:	Vietnam
Date of collection:	10/11/2015
Host species:	water buffalo
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31434, genome 31435, sequence viba_31436, sequencing info 31437	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31420	VIT/7/2015	porcine	98.9	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	98.7	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	98.6	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	98.6	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	98.6	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	98.6	0	O	ME-SA	Ind-2001	d
viba_26317	DakLak/VIT/15-16451 A	porcine	98.6	0	O	ME-SA	Ind-2001	d
viba_31416	VIT/6/2015	cattle	98.6	0	O	ME-SA	Ind-2001	d
viba_31412	VIT/5/2015	cattle	98.6	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		98.4	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	95.1	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	92.1	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	91.9	0	O	ME-SA	Ind-2001	a
viba_285	UKG/35/2001	porcine	89.9	0	O	ME-SA	PanAsia	
viba_397	UAE/4/2008	gazelle	89.7	0	O	ME-SA	Ind-2001	c
viba_766	IRN/31/2009	cattle	89.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_650	IRN/8/2005	ovine	88.6	0	O	ME-SA	PanAsia-2	
viba_491	TUR/257/2008		88.6	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		88.3	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	88.3	0	O	ME-SA	PanAsia-2	BAL-09

Virus sample name:	VIT/17/2015
Sender reference:	RAHO3_2
Location of origin:	Nghe An
Country of origin:	Vietnam
Date of collection:	01/12/2015
Host species:	porcine
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31438, genome 31439, sequence viba_31440, sequencing info 31441	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31420	VIT/7/2015	porcine	99.1	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	98.9	0	O	ME-SA	Ind-2001	d
viba_31444	VIT/18/2015	cattle	98.7	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	98.7	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	98.7	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	98.7	0	O	ME-SA	Ind-2001	d
viba_26317	DakLak/VIT/15-16451 A	porcine	98.7	0	O	ME-SA	Ind-2001	d
viba_31416	VIT/6/2015	cattle	98.7	0	O	ME-SA	Ind-2001	d
viba_31412	VIT/5/2015	cattle	98.7	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		98.6	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	95.3	0	O	ME-SA	Ind-2001	d
viba_705	KUW/3/97	bovine	92.1	0	O	ME-SA	Ind-2001	a
viba_541	OMN/7/2001	bovine	91.9	0	O	ME-SA	Ind-2001	b
viba_397	UAE/4/2008	gazelle	90.7	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	89.9	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	89.7	0	O	ME-SA	PanAsia-2	FAR-09
viba_505	TUR/264/2009		88.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	88.8	0	O	ME-SA	PanAsia-2	BAL-09
viba_491	TUR/257/2008		88.8	0	O	ME-SA	PanAsia-2	TER-08
viba_650	IRN/8/2005	ovine	88.4	0	O	ME-SA	PanAsia-2	

Virus sample name:	VIT/18/2015
Sender reference:	NCVD F15-83
Location of origin:	Yen Bai
Country of origin:	Vietnam
Date of collection:	02/12/2015
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31442, genome 31443, sequence viba_31444, sequencing info 31445	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31420	VIT/7/2015	porcine	99.7	0	O	ME-SA	Ind-2001	d
viba_31416	VIT/6/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_31412	VIT/5/2015	cattle	99.7	0	O	ME-SA	Ind-2001	d
viba_25472	LAO/2/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_25480	LAO/4/2015		99.5	0	O	ME-SA	Ind-2001	d
viba_26321	DakLak/VIT/15-16451 B	porcine	99.5	0	O	ME-SA	Ind-2001	d
viba_26333	DakNong/VIT/15-17867 BHK2	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_26341	NinhThuan/VIT/15-19350	cattle	99.4	0	O	ME-SA	Ind-2001	d
viba_26329	DakNong/VIT/15-17867	porcine	99.4	0	O	ME-SA	Ind-2001	d
viba_25484	LAO/5/2015		99.4	0	O	ME-SA	Ind-2001	d

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	95.9	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	92.6	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	92.4	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	90.5	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	90.4	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	90.4	0	O	ME-SA	PanAsia-2	FAR-09
viba_491	TUR/257/2008		89.4	0	O	ME-SA	PanAsia-2	TER-08
viba_505	TUR/264/2009		89.1	0	O	ME-SA	PanAsia-2	SAN-09
viba_666	IRN/18/2010	cattle	89.1	0	O	ME-SA	PanAsia-2	BAL-09
viba_650	IRN/8/2005	ovine	89.0	0	O	ME-SA	PanAsia-2	

Virus sample name:	VIT/3/2016
Sender reference:	16-4139/01
Location of origin:	Quang Nam
Country of origin:	Vietnam
Date of collection:	29/02/2016
Host species:	cattle
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	14/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017

VIBASys IDs: sample 31446, genome 31447, sequence viba_31448, sequencing info 31449

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31460	VIT/7/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_31452	VIT/4/2016	porcine	99.2	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	99.2	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_23837	TAI/2/2016	cattle	98.9	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	98.9	0	O	SEA	Mya-98	
viba_31468	VIT/9/2016	cattle	98.9	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	98.9	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	98.7	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	98.6	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.4	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	88.6	0	O	SEA		
viba_576	IND/R2/75		86.6	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.1	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		85.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		85.8	0	O	ME-SA	PanAsia-2	ANT-10
viba_359	Manisa/TUR/69		85.8	0	O	ME-SA		
viba_766	IRN/31/2009	cattle	85.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_491	TUR/257/2008		85.5	0	O	ME-SA	PanAsia-2	TER-08
viba_617	IND/53/79	bovine	85.4	0	O	ME-SA		

Virus sample name:	VIT/4/2016
Sender reference:	NCVD F16-27
Location of origin:	Vinh Phuc
Country of origin:	Vietnam
Date of collection:	11/03/2016
Host species:	porcine
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31450, genome 31451, sequence viba_31452, sequencing info 31453	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31460	VIT/7/2016	cattle	100.0	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	100.0	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	100.0	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	99.7	0	O	SEA	Mya-98	
viba_31468	VIT/9/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	99.5	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	99.4	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30161	MAY/9/2016	cattle	99.4	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.6	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	89.1	0	O	SEA		
viba_576	IND/R2/75		87.0	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.6	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		86.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		86.0	0	O	ME-SA	PanAsia-2	ANT-10
viba_359	Manisa/TUR/69		86.0	0	O	ME-SA		
viba_397	UAE/4/2008	gazelle	85.8	0	O	ME-SA	Ind-2001	c
viba_705	KUW/3/97	bovine	85.8	0	O	ME-SA	Ind-2001	a
viba_766	IRN/31/2009	cattle	85.8	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	VIT/5/2016
Sender reference:	NCVD F16-28
Location of origin:	Vinh Phuc
Country of origin:	Vietnam
Date of collection:	11/03/2016
Host species:	cattle
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	15/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31454, genome 31455, sequence viba_31456, sequencing info 31457	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31460	VIT/7/2016	cattle	100.0	0	O	SEA	Mya-98	
viba_31452	VIT/4/2016	porcine	100.0	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	100.0	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	99.7	0	O	SEA	Mya-98	
viba_31468	VIT/9/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	99.5	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	99.4	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30161	MAY/9/2016	cattle	99.4	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.6	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	89.1	0	O	SEA		
viba_576	IND/R2/75		87.0	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.6	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		86.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		86.0	0	O	ME-SA	PanAsia-2	ANT-10
viba_359	Manisa/TUR/69		86.0	0	O	ME-SA		
viba_397	UAE/4/2008	gazelle	85.8	0	O	ME-SA	Ind-2001	c
viba_705	KUW/3/97	bovine	85.8	0	O	ME-SA	Ind-2001	a
viba_766	IRN/31/2009	cattle	85.8	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	VIT/7/2016
Sender reference:	RAHO7 FMD 1606
Location of origin:	Vinh Long
Country of origin:	Vietnam
Date of collection:	24/03/2016
Host species:	cattle
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31458, genome 31459, sequence viba_31460, sequencing info 31461	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31452	VIT/4/2016	porcine	100.0	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	100.0	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	100.0	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	99.7	0	O	SEA	Mya-98	
viba_31468	VIT/9/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	99.5	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	99.4	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30161	MAY/9/2016	cattle	99.4	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.6	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	89.1	0	O	SEA		
viba_576	IND/R2/75		87.0	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.6	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		86.0	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		86.0	0	O	ME-SA	PanAsia-2	ANT-10
viba_359	Manisa/TUR/69		86.0	0	O	ME-SA		
viba_397	UAE/4/2008	gazelle	85.8	0	O	ME-SA	Ind-2001	c
viba_705	KUW/3/97	bovine	85.8	0	O	ME-SA	Ind-2001	a
viba_766	IRN/31/2009	cattle	85.8	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	VIT/8/2016
Sender reference:	16-6180B
Location of origin:	Vinh Long
Country of origin:	Vietnam
Date of collection:	28/03/2016
Host species:	porcine
Serotype:	O
Topotype:	CATHAY
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31462, genome 31463, sequence viba_31464, sequencing info 31465	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_26337	CanTho/VIT/15-20501	porcine	98.1	0	O	CATHAY		
viba_31216	SCGH/CHA/2016	porcine	95.4	0	O	CATHAY		
viba_31208	GD/CHA/JH12/2013	porcine	95.4	0	O	CATHAY		
viba_14613	HKN/25/2010	porcine	92.9	0	O	CATHAY		
viba_14609	HKN/24/2010	porcine	92.9	0	O	CATHAY		
viba_31212	HN/CHA/HK212/2013	porcine	92.9	0	O	CATHAY		
viba_9513	HKN/2/2007	porcine	91.2	0	O	CATHAY		
viba_9509	HKN/1/2007	porcine	91.0	0	O	CATHAY		
viba_6237	HKN/8/2004	porcine	90.2	0	O	CATHAY		
viba_6249	HKN/11/2004	porcine	90.2	0	O	CATHAY		

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_480	Yunlin/TAW/97	porcine	86.6	0	O	CATHAY		
viba_418	PHI/7/96	porcine	86.4	0	O	CATHAY		
viba_584	HKN/6/83	bovine	82.2	2	O	CATHAY		
viba_325	HKN/21/70	porcine	81.2	2	O	CATHAY		
viba_359	Manisa/TUR/69		80.4	0	O	ME-SA		
viba_850	NEP/1/2015	cattle	79.7	1	O	ME-SA	PanAsia-2	KAT-15
viba_617	IND/53/79	bovine	79.3	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	79.0	0	O	ME-SA	PanAsia	
viba_293	BHU/3/2009	cattle	78.7	0	O	ME-SA	Ind-2001	d
viba_505	TUR/264/2009		78.7	0	O	ME-SA	PanAsia-2	SAN-09

Virus sample name:	VIT/9/2016
Sender reference:	RAHO7 FMD 1607
Location of origin:	Tra Vinh
Country of origin:	Vietnam
Date of collection:	06/04/2016
Host species:	cattle
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31466, genome 31467, sequence viba_31468, sequencing info 31469	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31460	VIT/7/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_31452	VIT/4/2016	porcine	99.7	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	99.7	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	99.7	0	O	SEA	Mya-98	
viba_31472	VIT/10/2016	cattle	99.5	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	99.4	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	99.2	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	99.1	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	99.1	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.3	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	89.1	0	O	SEA		
viba_576	IND/R2/75		86.7	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.3	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		85.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_359	Manisa/TUR/69		85.7	0	O	ME-SA		
viba_719	IRN/88/2009		85.6	0	O	ME-SA	PanAsia-2	ANT-10
viba_397	UAE/4/2008	gazelle	85.5	0	O	ME-SA	Ind-2001	c
viba_705	KUW/3/97	bovine	85.5	0	O	ME-SA	Ind-2001	a
viba_766	IRN/31/2009	cattle	85.5	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	VIT/10/2016
Sender reference:	RAHO7 FMD 1610
Location of origin:	Tra Vinh
Country of origin:	Vietnam
Date of collection:	12/04/2016
Host species:	cattle
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31470, genome 31471, sequence viba_31472, sequencing info 31473	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31468	VIT/9/2016	cattle	99.5	0	O	SEA	Mya-98	
viba_31460	VIT/7/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_31452	VIT/4/2016	porcine	99.2	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	99.2	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	98.9	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	98.9	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	98.7	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	98.6	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	98.6	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.1	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	89.0	0	O	SEA		
viba_576	IND/R2/75		86.6	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.1	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		85.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		85.5	0	O	ME-SA	PanAsia-2	ANT-10
viba_359	Manisa/TUR/69		85.5	0	O	ME-SA		
viba_491	TUR/257/2008		85.5	0	O	ME-SA	PanAsia-2	TER-08
viba_397	UAE/4/2008	gazelle	85.3	0	O	ME-SA	Ind-2001	c
viba_705	KUW/3/97	bovine	85.3	0	O	ME-SA	Ind-2001	a

Virus sample name:	VIT/11/2016
Sender reference:	NCVD F16-39
Location of origin:	Bac Ninh
Country of origin:	Vietnam
Date of collection:	26/04/2016
Host species:	porcine
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS1
Harvest date of material:	12/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31474, genome 31475, sequence viba_31476, sequencing info 31477	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31460	VIT/7/2016	cattle	99.5	0	O	SEA	Mya-98	
viba_31452	VIT/4/2016	porcine	99.5	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	99.5	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	99.5	0	O	SEA	Mya-98	
viba_31480	VIT/12/2016	porcine	99.2	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	99.2	0	O	SEA	Mya-98	
viba_31468	VIT/9/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	98.9	0	O	SEA	Mya-98	
viba_30161	MAY/9/2016	cattle	98.9	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	92.1	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	88.6	0	O	SEA		
viba_576	IND/R2/75		86.6	0	O	ME-SA		
viba_694	CAM/3/98	bovine	86.1	0	O	SEA	Cam-94	
viba_705	KUW/3/97	bovine	85.8	0	O	ME-SA	Ind-2001	a
viba_505	TUR/264/2009		85.8	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		85.7	0	O	ME-SA	PanAsia-2	ANT-10
viba_359	Manisa/TUR/69		85.7	0	O	ME-SA		
viba_766	IRN/31/2009	cattle	85.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_397	UAE/4/2008	gazelle	85.5	0	O	ME-SA	Ind-2001	c

Virus sample name:	VIT/12/2016
Sender reference:	NCVD F16-41
Location of origin:	Bac Ninh
Country of origin:	Vietnam
Date of collection:	05/05/2016
Host species:	porcine
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS2
Harvest date of material:	15/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31478, genome 31479, sequence viba_31480, sequencing info 31481	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31460	VIT/7/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_31452	VIT/4/2016	porcine	99.4	0	O	SEA	Mya-98	
viba_26304	TAI/28/2015	cattle	99.4	0	O	SEA	Mya-98	
viba_31456	VIT/5/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_31476	VIT/11/2016	porcine	99.2	0	O	SEA	Mya-98	
viba_23803	LAO/2/2016	water buffalo	99.1	0	O	SEA	Mya-98	
viba_31468	VIT/9/2016	cattle	99.1	0	O	SEA	Mya-98	
viba_23841	TAI/4/2016	cattle	99.1	0	O	SEA	Mya-98	
viba_30165	MAY/10/2016	cattle	98.7	0	O	SEA	Mya-98	
viba_30161	MAY/9/2016	cattle	98.7	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	91.9	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	88.5	0	O	SEA		
viba_576	IND/R2/75		86.4	0	O	ME-SA		
viba_694	CAM/3/98	bovine	85.9	0	O	SEA	Cam-94	
viba_505	TUR/264/2009		85.7	0	O	ME-SA	PanAsia-2	SAN-09
viba_719	IRN/88/2009		85.5	0	O	ME-SA	PanAsia-2	ANT-10
viba_766	IRN/31/2009	cattle	85.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_359	Manisa/TUR/69		85.5	0	O	ME-SA		
viba_491	TUR/257/2008		85.4	0	O	ME-SA	PanAsia-2	TER-08
viba_285	UKG/35/2001	porcine	85.2	0	O	ME-SA	PanAsia	

Virus sample name:	VIT/15/2016
Sender reference:	NCVD F16-60
Location of origin:	Bac Ninh
Country of origin:	Vietnam
Date of collection:	03/08/2016
Host species:	water buffalo
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31482, genome 31483, sequence viba_31484, sequencing info 31485	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31488	VIT/17/2016	cattle	100.0	0	O	SEA	Mya-98	
viba_30502	TAI/30/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30522	TAI/35/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30514	TAI/33/2016	porcine	99.4	0	O	SEA	Mya-98	
viba_30506	TAI/31/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30510	TAI/32/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_26288	TAI/22/2015	water buffalo	99.2	0	O	SEA	Mya-98	
viba_30498	TAI/26/2016	cattle	99.1	0	O	SEA	Mya-98	
viba_30526	TAI/37/2016	cattle	99.1	0	O	SEA	Mya-98	
viba_25518	MYA/1/2015	bovine	99.1	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	91.8	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	88.6	0	O	SEA		
viba_491	TUR/257/2008		84.4	0	O	ME-SA	PanAsia-2	TER-08
viba_766	IRN/31/2009	cattle	84.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_354	PAK/16/2010	cattle	84.1	0	O	ME-SA	PanAsia-2	PUN-10
viba_719	IRN/88/2009		84.1	0	O	ME-SA	PanAsia-2	ANT-10
viba_860	IRN/6/2015	cattle	84.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		83.9	0	O	ME-SA	PanAsia-2	SAN-09
viba_650	IRN/8/2005	ovine	83.8	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	83.7	0	O	ME-SA	PanAsia-2	BAL-09

Virus sample name:	VIT/17/2016
Sender reference:	RAHO3_3
Location of origin:	Nghe An
Country of origin:	Vietnam
Date of collection:	25/08/2016
Host species:	cattle
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31486, genome 31487, sequence viba_31488, sequencing info 31489	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_31484	VIT/15/2016	water buffalo	100.0	0	O	SEA	Mya-98	
viba_30502	TAI/30/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30522	TAI/35/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30514	TAI/33/2016	porcine	99.4	0	O	SEA	Mya-98	
viba_30506	TAI/31/2016	cattle	99.4	0	O	SEA	Mya-98	
viba_30510	TAI/32/2016	cattle	99.2	0	O	SEA	Mya-98	
viba_26288	TAI/22/2015	water buffalo	99.2	0	O	SEA	Mya-98	
viba_30498	TAI/26/2016	cattle	99.1	0	O	SEA	Mya-98	
viba_30526	TAI/37/2016	cattle	99.1	0	O	SEA	Mya-98	
viba_25518	MYA/1/2015	bovine	99.1	0	O	SEA	Mya-98	

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_199	MYA/7/98	bovine	91.8	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	88.6	0	O	SEA		
viba_491	TUR/257/2008		84.4	0	O	ME-SA	PanAsia-2	TER-08
viba_766	IRN/31/2009	cattle	84.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_354	PAK/16/2010	cattle	84.1	0	O	ME-SA	PanAsia-2	PUN-10
viba_719	IRN/88/2009		84.1	0	O	ME-SA	PanAsia-2	ANT-10
viba_860	IRN/6/2015	cattle	84.0	0	O	ME-SA	PanAsia-2	QOM-15
viba_505	TUR/264/2009		83.9	0	O	ME-SA	PanAsia-2	SAN-09
viba_650	IRN/8/2005	ovine	83.8	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	83.7	0	O	ME-SA	PanAsia-2	BAL-09

Virus sample name:	VIT/20/2016
Sender reference:	NCVD F16-63
Location of origin:	Son La
Country of origin:	Vietnam
Date of collection:	23/09/2016
Host species:	cattle
Serotype:	O
Topotype:	ME-SA
Lineage:	Ind-2001
Sublineage:	d
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	17/01/2017
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	23/01/2017
Created:	26/01/2017
Last updated:	26/01/2017
VIBASys IDs: sample 31490, genome 31491, sequence viba_31492, sequencing info 31493	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_30855	Zabaikalskiy/1/RUS/2016	cattle	99.5	0	O	ME-SA	Ind-2001	d
viba_31082	BAN/GKa-236(pig)/2015	porcine	99.5	0	O	ME-SA	Ind-2001	d
viba_30859	Zabaikalskiy/2/RUS/2016	cattle	99.5	0	O	ME-SA	Ind-2001	d
viba_31135	BAN/NL/Lo-245/2015	cattle	99.2	0	O	ME-SA	Ind-2001	d
viba_30551	TAI-269-2-2016		99.1	0	O	ME-SA	Ind-2001	d
viba_30547	TAI-225-2016R3		99.1	0	O	ME-SA	Ind-2001	d
viba_26125	NEP/19/2015	cattle	98.9	0	O	ME-SA	Ind-2001	d
viba_29907	NEP/28/2015	cattle	98.9	0	O	ME-SA	Ind-2001	d
viba_26117	NEP/17/2015	cattle	98.9	0	O	ME-SA	Ind-2001	d
viba_31131	BAN/SI/Sh-234/2015	cattle	98.9	0	O	ME-SA	Ind-2001	d

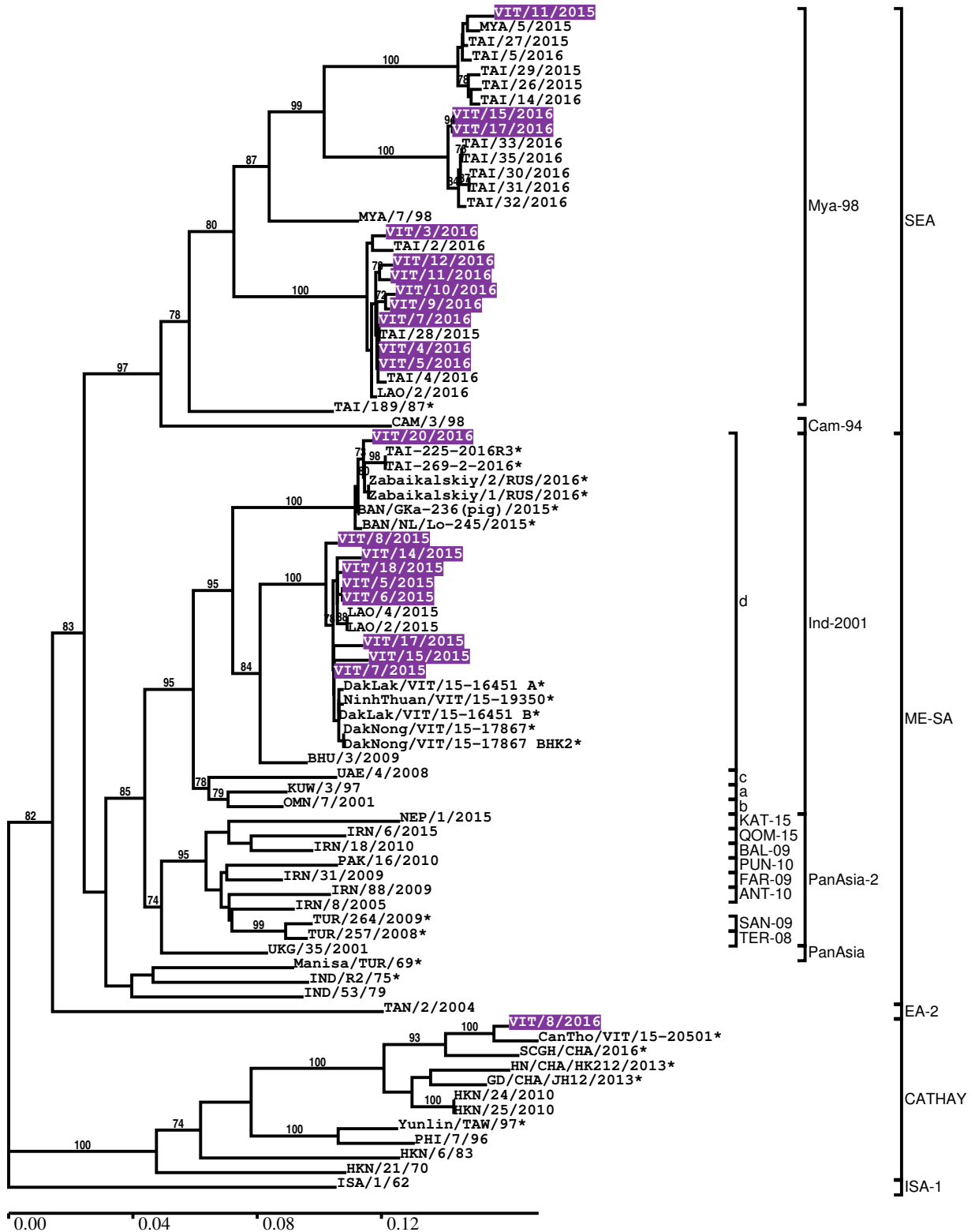
Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_293	BHU/3/2009	cattle	93.8	0	O	ME-SA	Ind-2001	d
viba_541	OMN/7/2001	bovine	93.1	0	O	ME-SA	Ind-2001	b
viba_705	KUW/3/97	bovine	91.6	0	O	ME-SA	Ind-2001	a
viba_397	UAE/4/2008	gazelle	90.1	0	O	ME-SA	Ind-2001	c
viba_285	UKG/35/2001	porcine	88.8	0	O	ME-SA	PanAsia	
viba_766	IRN/31/2009	cattle	88.2	0	O	ME-SA	PanAsia-2	FAR-09
viba_359	Manisa/TUR/69		88.2	0	O	ME-SA		
viba_650	IRN/8/2005	ovine	88.0	0	O	ME-SA	PanAsia-2	
viba_666	IRN/18/2010	cattle	87.8	0	O	ME-SA	PanAsia-2	BAL-09
viba_719	IRN/88/2009		87.7	0	O	ME-SA	PanAsia-2	ANT-10

Report on FMDV O in Vietnam in 2015, 2016

Batch: WRLFMD/2016/00037



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLFMD/2016/00037-Vietnam-O (21 sequences)
Sequence database set:	allseqs_O (3281 sequences)
Prototype sequence set:	!prototypes_O (47 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:	25
VIBASys version:	master-1.1.0-17-gf69a4d1

Sequences in the Phylogenetic Tree

All sequences in the tree are in taxonomic group FMDV/O

label	accession	host(s)	lab	country	taxonomic information
VIT/11/2015	n/a	porcine	WRLFMD	Vietnam	SEA/Mya-98
MYA/5/2015	n/a	bovine	WRLFMD	Myanmar	SEA/Mya-98
TAI/27/2015	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
TAI/5/2016	n/a	porcine	WRLFMD	Thailand	SEA/Mya-98
TAI/29/2015	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
TAI/26/2015	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
TAI/14/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
VIT/15/2016	n/a	water buffalo	WRLFMD	Vietnam	SEA/Mya-98
VIT/17/2016	n/a	cattle	WRLFMD	Vietnam	SEA/Mya-98
TAI/33/2016	n/a	porcine	WRLFMD	Thailand	SEA/Mya-98
TAI/35/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
TAI/30/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
TAI/31/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
TAI/32/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
MYA/7/98	DQ164925	bovine	WRLFMD	Myanmar	SEA/Mya-98
VIT/3/2016	n/a	cattle	WRLFMD	Vietnam	SEA/Mya-98
TAI/2/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
VIT/12/2016	n/a	porcine	WRLFMD	Vietnam	SEA/Mya-98
VIT/11/2016	n/a	porcine	WRLFMD	Vietnam	SEA/Mya-98
VIT/10/2016	n/a	cattle	WRLFMD	Vietnam	SEA/Mya-98
VIT/9/2016	n/a	cattle	WRLFMD	Vietnam	SEA/Mya-98
VIT/7/2016	n/a	cattle	WRLFMD	Vietnam	SEA/Mya-98
TAI/28/2015	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
VIT/4/2016	n/a	porcine	WRLFMD	Vietnam	SEA/Mya-98
VIT/5/2016	n/a	cattle	WRLFMD	Vietnam	SEA/Mya-98
TAI/4/2016	n/a	cattle	WRLFMD	Thailand	SEA/Mya-98
LAO/2/2016	n/a	water buffalo	WRLFMD	Laos	SEA/Mya-98
TAI/189/87*	n/a	bovine	TRRL	Thailand	SEA
CAM/3/98	AJ294910	bovine	WRLFMD	Cambodia	SEA/Cam-94
VIT/20/2016	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/d
TAI-225-2016R3*	n/a	n/a	TRRL	Thailand	ME-SA/Ind-2001/d
TAI-269-2-2016*	n/a	n/a	TRRL	Thailand	ME-SA/Ind-2001/d
Zabaikalskiy/2/RUS/2016*	n/a	cattle	ARRIAH	Russia	ME-SA/Ind-2001/d
Zabaikalskiy/1/RUS/2016*	n/a	cattle	ARRIAH	Russia	ME-SA/Ind-2001/d
BAN/GKa-236(pig)/2015*	KX712091	porcine	Univ Dhaka	Bangladesh	ME-SA/Ind-2001/d
BAN/NL/Lo-245/2015*	KY077611	cattle	Univ Dhaka	Bangladesh	ME-SA/Ind-2001/d

continued on next page

label	accession	host(s)	lab	country	taxonomic information
VIT/8/2015	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/d
VIT/14/2015	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/d
VIT/18/2015	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/d
VIT/5/2015	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/d
VIT/6/2015	n/a	cattle	WRLFMD	Vietnam	ME-SA/Ind-2001/d
LAO/4/2015	n/a	n/a	WRLFMD	Laos	ME-SA/Ind-2001/d
LAO/2/2015	n/a	n/a	WRLFMD	Laos	ME-SA/Ind-2001/d
VIT/17/2015	n/a	porcine	WRLFMD	Vietnam	ME-SA/Ind-2001/d
VIT/15/2015	n/a	water buffalo	WRLFMD	Vietnam	ME-SA/Ind-2001/d
VIT/7/2015	n/a	porcine	WRLFMD	Vietnam	ME-SA/Ind-2001/d
DakLak/VIT/15-16451 A*	n/a	porcine	RAHO6	Vietnam	ME-SA/Ind-2001/d
NinhThuan/VIT/15-19350*	n/a	cattle	RAHO6	Vietnam	ME-SA/Ind-2001/d
DakLak/VIT/15-16451 B*	n/a	porcine	RAHO6	Vietnam	ME-SA/Ind-2001/d
DakNong/VIT/15-17867*	n/a	porcine	RAHO6	Vietnam	ME-SA/Ind-2001/d
DakNong/VIT/15-17867 BHK2*	n/a	porcine	RAHO6	Vietnam	ME-SA/Ind-2001/d
BHU/3/2009	KM921814	cattle	WRLFMD	Bhutan	ME-SA/Ind-2001/d
UAE/4/2008	KM921876	gazelle	WRLFMD	United Arab Emirates	ME-SA/Ind-2001/c
KUW/3/97	DQ164904	bovine	WRLFMD	Kuwait	ME-SA/Ind-2001/a
OMN/7/2001	DQ164941	bovine	WRLFMD	Oman	ME-SA/Ind-2001/b
NEP/1/2015	n/a	cattle	WRLFMD	Nepal	ME-SA/PanAsia-2/KAT-15
IRN/6/2015	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/QOM-15
IRN/18/2010	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/BAL-09
PAK/16/2010	n/a	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/PUN-10
IRN/31/2009	n/a	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/88/2009	n/a	n/a	WRLFMD	Iran	ME-SA/PanAsia-2/ANT-10
IRN/8/2005	n/a	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
TUR/264/2009*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/SAN-09
TUR/257/2008*	n/a	n/a	FMDI-Ankara	Turkey	ME-SA/PanAsia-2/TER-08
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
Manisa/TUR/69*	AY593823	n/a	PIADC	Turkey	ME-SA
IND/R2/75*	AF204276	n/a	PD-FMD	India	ME-SA
IND/53/79	AF292107	bovine	PD-FMD	India	ME-SA
TAN/2/2004	KF561679	bovine	WRLFMD	Tanzania	EA-2
VIT/8/2016	n/a	porcine	WRLFMD	Vietnam	CATHAY
CanTho/VIT/15-20501*	n/a	porcine	RAHO6	Vietnam	CATHAY
SCGH/CHA/2016*	KX161429	porcine	LVRI	China	CATHAY
HN/CHA/HK212/2013*	KU204893	porcine	SMU	China	CATHAY
GD/CHA/JH12/2013*	KU204894	porcine	SMU	China	CATHAY
HKN/24/2010	KM243162	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/25/2010	KM243163	porcine	WRLFMD	Hong Kong SAR	CATHAY
Yunlin/TAW/97*	AF308157	porcine	PIADC	Taiwan	CATHAY
PHI/7/96	AJ294926	porcine	WRLFMD	Philippines	CATHAY
HKN/6/83	AJ294919	bovine	WRLFMD	Hong Kong SAR	CATHAY
HKN/21/70	AJ294911	porcine	WRLFMD	Hong Kong SAR	CATHAY
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

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