

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

Genotyping Report

FMDV serotype: O
Country: Egypt
Year: 2016, 2017
Batch: WRLMEG/2018/00004
No. of sequences: 15
Report date: 16th January 2018
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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

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Sequences were retrieved from GenBank on 15/01/2018.

They were submitted to GenBank on the 09/06/2017 by Soltan, M.A., Bazid, A., Mandour, M.F., Wasfy, M. and El-Sayed, M., Research and Development, Middle East Vaccine company (MEVAC), 20, Joseph Tito St., El Nozha El Gededa., Heliopolis, Cairo. 11111, Egypt.

Virus sample name:	Ismailia 12/Egy/2016
Sender reference:	Ismailia12/Egy/2016
Location of origin:	Ismailia
Country of origin:	Egypt
Date of collection:	2016
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35487, genome 35488, sequence viba_35489, sequencing info 35490	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_35493	Ismailia 13/Egy/2016		100.0	0	O	EA-3		
viba_30429	Ismailia 11/Egy/2016	cattle	98.9	0	O	EA-3		
viba_30405	Giza 2/Egy/2016	cattle	98.9	0	O	EA-3		
viba_29582	EGY/13/2015	cattle	98.9	0	O	EA-3		
viba_29606	EGY/9/2016	cattle	98.9	0	O	EA-3		
viba_29622	EGY/14/2016	cattle	98.9	0	O	EA-3		
viba_30380	Ismailia 2/Egy/2016	cattle	98.7	0	O	EA-3		
viba_30383	Ismailia 3/Egy/2016	cattle	98.7	0	O	EA-3		
viba_29634	EGY/18/2016	cattle	98.7	0	O	EA-3		
viba_29630	EGY/17/2016	cattle	98.7	0	O	EA-3		

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_116	SUD/2/86	bovine	89.1	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.9	0	O	EA-3		
viba_617	IND/53/79	bovine	85.2	0	O	ME-SA		
viba_354	PAK/16/2010	cattle	84.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_221	MAL/1/98		84.5	0	O	EA-2		
viba_523	K83/79		84.4	0	O	EA-1		
viba_285	UKG/35/2001	porcine	84.3	0	O	ME-SA	PanAsia	
viba_850	NEP/1/2015	cattle	84.3	1	O	ME-SA	PanAsia-2	KAT-15
viba_263	TAN/2/2004	bovine	84.2	0	O	EA-2		

Virus sample name:	Ismailia 13/Egy/2016
Sender reference:	Ismailia13/Egy/2016
Location of origin:	Ismailia
Country of origin:	Egypt
Date of collection:	2016
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35491, genome 35492, sequence viba_35493, sequencing info 35494	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_35489	Ismailia 12/Egy/2016		100.0	0	O	EA-3		
viba_30429	Ismailia 11/Egy/2016	cattle	98.9	0	O	EA-3		
viba_30405	Giza 2/Egy/2016	cattle	98.9	0	O	EA-3		
viba_29582	EGY/13/2015	cattle	98.9	0	O	EA-3		
viba_29606	EGY/9/2016	cattle	98.9	0	O	EA-3		
viba_29622	EGY/14/2016	cattle	98.9	0	O	EA-3		
viba_30380	Ismailia 2/Egy/2016	cattle	98.7	0	O	EA-3		
viba_30383	Ismailia 3/Egy/2016	cattle	98.7	0	O	EA-3		
viba_29634	EGY/18/2016	cattle	98.7	0	O	EA-3		
viba_29630	EGY/17/2016	cattle	98.7	0	O	EA-3		

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_116	SUD/2/86	bovine	89.1	0	O	EA-3		
viba_854	ETH/1/2007	cattle	86.3	0	O	EA-3		
viba_408	ETH/3/2004	cattle	85.9	0	O	EA-3		
viba_617	IND/53/79	bovine	85.2	0	O	ME-SA		
viba_354	PAK/16/2010	cattle	84.5	0	O	ME-SA	PanAsia-2	PUN-10
viba_221	MAL/1/98		84.5	0	O	EA-2		
viba_523	K83/79		84.4	0	O	EA-1		
viba_285	UKG/35/2001	porcine	84.3	0	O	ME-SA	PanAsia	
viba_850	NEP/1/2015	cattle	84.3	1	O	ME-SA	PanAsia-2	KAT-15
viba_263	TAN/2/2004	bovine	84.2	0	O	EA-2		

Virus sample name:	Alexandria 1/Egy/2016
Sender reference:	Alexandria1/Egy/2016
Location of origin:	Alexandria
Country of origin:	Egypt
Date of collection:	2016
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35495, genome 35496, sequence viba_35497, sequencing info 35498	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34239	EGY/33/2017	cattle	99.5	0	O	EA-3		
viba_34211	EGY/25/2017	cattle	99.4	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.4	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.4	0	O	EA-3		
viba_34195	EGY/17/2017	cattle	99.4	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.4	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.4	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.4	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.4	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.4	0	O	EA-3		

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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.5	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_221	MAL/1/98		84.0	0	O	EA-2		
viba_617	IND/53/79	bovine	83.9	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	83.8	0	O	EA-3		
viba_85	UGA/3/2002		83.8	0	O	EA-2		
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_302	CIV/8/99	bovine	83.6	0	O	WA		
viba_263	TAN/2/2004	bovine	83.5	0	O	EA-2		

Virus sample name:	Alexandria 1/Egy/2017
Sender reference:	Alexandria1/Egy/2017
Location of origin:	Alexandria
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35499, genome 35500, sequence viba_35501, sequencing info 35502	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.5	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.5	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.5	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.5	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.5	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.5	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.5	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.5	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.4	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.4	0	O	EA-3		

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_116	SUD/2/86	bovine	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.7	0	O	EA-3		
viba_617	IND/53/79	bovine	84.7	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.3	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	84.1	0	O	EA-2		
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_221	MAL/1/98		83.7	0	O	EA-2		
viba_302	CIV/8/99	bovine	83.6	0	O	WA		
viba_523	K83/79		83.6	0	O	EA-1		
viba_359	Manisa/TUR/69		83.5	0	O	ME-SA		

Virus sample name:	Giza 1/Egy/2017
Sender reference:	Giza1/Egy/2017
Location of origin:	Giza
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35503, genome 35504, sequence viba_35505, sequencing info 35506	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	100.0	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	100.0	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		100.0	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	100.0	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	100.0	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	100.0	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	100.0	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.8	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.8	0	O	EA-3		
viba_32340	PAT/2/2017	cattle	99.8	0	O	EA-3		

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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.8	0	O	EA-3		
viba_617	IND/53/79	bovine	84.2	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.8	0	O	EA-2		
viba_85	UGA/3/2002		83.8	0	O	EA-2		
viba_221	MAL/1/98		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		

Virus sample name:	Cairo 1/Egy/2017
Sender reference:	Cairo1/Egy/2017
Location of origin:	Cairo
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35507, genome 35508, sequence viba_35509, sequencing info 35510	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.7	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.7	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.7	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.7	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.7	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.7	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.7	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.7	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.5	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.5	0	O	EA-3		

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_116	SUD/2/86	bovine	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.8	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_263	TAN/2/2004	bovine	83.9	0	O	EA-2		
viba_285	UKG/35/2001	porcine	83.9	0	O	ME-SA	PanAsia	
viba_221	MAL/1/98		83.9	0	O	EA-2		
viba_359	Manisa/TUR/69		83.8	0	O	ME-SA		
viba_85	UGA/3/2002		83.6	0	O	EA-2		
viba_302	CIV/8/99	bovine	83.3	0	O	WA		

Virus sample name:	Sharkia 1/Egy/2017
Sender reference:	Sharkia1/Egy/2017
Location of origin:	Sharkia
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35511, genome 35512, sequence viba_35513, sequencing info 35514	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.8	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.8	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.8	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.8	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.8	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.8	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.8	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.8	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.7	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.7	0	O	EA-3		

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_116	SUD/2/86	bovine	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.7	0	O	EA-3		
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_285	UKG/35/2001	porcine	83.9	0	O	ME-SA	PanAsia	
viba_221	MAL/1/98		83.9	0	O	EA-2		
viba_263	TAN/2/2004	bovine	83.6	0	O	EA-2		
viba_85	UGA/3/2002		83.6	0	O	EA-2		
viba_359	Manisa/TUR/69		83.5	0	O	ME-SA		
viba_523	K83/79		83.3	0	O	EA-1		

Virus sample name:	Gharbia 1/Egy/2017
Sender reference:	Gharbia1/Egy/2017
Location of origin:	Gharbia
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35515, genome 35516, sequence viba_35517, sequencing info 35518	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.7	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.7	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.7	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.7	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.7	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.7	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.7	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.7	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.5	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.5	0	O	EA-3		

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_116	SUD/2/86	bovine	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.6	0	O	EA-3		
viba_617	IND/53/79	bovine	84.2	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_285	UKG/35/2001	porcine	83.8	0	O	ME-SA	PanAsia	
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_263	TAN/2/2004	bovine	83.5	0	O	EA-2		
viba_85	UGA/3/2002		83.5	0	O	EA-2		
viba_523	K83/79		83.4	0	O	EA-1		
viba_221	MAL/1/98		83.4	0	O	EA-2		

Virus sample name:	Behira 1/Egy/2017
Sender reference:	Behira1/Egy/2017
Location of origin:	Behira
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35519, genome 35520, sequence viba_35521, sequencing info 35522	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.8	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.8	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.8	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.8	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.8	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.8	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.8	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.8	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.7	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.7	0	O	EA-3		

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_116	SUD/2/86	bovine	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.7	0	O	EA-3		
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_285	UKG/35/2001	porcine	83.9	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.6	0	O	EA-2		
viba_85	UGA/3/2002		83.6	0	O	EA-2		
viba_221	MAL/1/98		83.6	0	O	EA-2		
viba_359	Manisa/TUR/69		83.5	0	O	ME-SA		
viba_523	K83/79		83.3	0	O	EA-1		

Virus sample name:	Behira 2/Egy/2017
Sender reference:	Behira2/Egy/2017
Location of origin:	Behira
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35523, genome 35524, sequence viba_35525, sequencing info 35526	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	100.0	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		100.0	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	100.0	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	100.0	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	100.0	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	100.0	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	100.0	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.8	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.8	0	O	EA-3		
viba_32340	PAT/2/2017	cattle	99.8	0	O	EA-3		

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_116	SUD/2/86	bovine	88.3	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.8	0	O	EA-3		
viba_617	IND/53/79	bovine	84.2	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.8	0	O	EA-2		
viba_85	UGA/3/2002		83.8	0	O	EA-2		
viba_221	MAL/1/98		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		

Virus sample name:	Fayoum 1/Egy/2017
Sender reference:	Fayoum1/Egy/2017
Location of origin:	Fayoum
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35483, genome 35527, sequence viba_35528, sequencing info 35529	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_35536	Fayoum 3/Egy/2017		99.8	0	O	EA-3		
viba_34195	EGY/17/2017	cattle	99.7	0	O	EA-3		
viba_34159	EGY/4/2017	water buffalo	99.5	0	O	EA-3		
viba_34211	EGY/25/2017	cattle	99.4	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.4	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.4	0	O	EA-3		
viba_34219	EGY/27/2017	cattle	99.4	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.4	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.4	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.4	0	O	EA-3		

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_116	SUD/2/86	bovine	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.4	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_221	MAL/1/98		83.9	0	O	EA-2		
viba_359	Manisa/TUR/69		83.6	0	O	ME-SA		
viba_617	IND/53/79	bovine	83.6	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	83.5	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.3	0	O	EA-2		
viba_85	UGA/3/2002		83.3	0	O	EA-2		
viba_523	K83/79		83.3	0	O	EA-1		

Virus sample name:	Fayoum 2/Egy/2017
Sender reference:	Fayoum2/Egy/2017
Location of origin:	Fayoum
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35530, genome 35531, sequence viba_35532, sequencing info 35533	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.7	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.7	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.7	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.7	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.7	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.7	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.7	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.7	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.5	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.5	0	O	EA-3		

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_116	SUD/2/86	bovine	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.5	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_617	IND/53/79	bovine	83.9	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	83.8	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.5	0	O	EA-2		
viba_85	UGA/3/2002		83.5	0	O	EA-2		
viba_221	MAL/1/98		83.4	0	O	EA-2		
viba_359	Manisa/TUR/69		83.3	0	O	ME-SA		
viba_523	K83/79		83.1	0	O	EA-1		

Virus sample name:	Fayoum 3/Egy/2017
Sender reference:	Fayoum3/Egy/2017
Location of origin:	Fayoum
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35534, genome 35535, sequence viba_35536, sequencing info 35537	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34195	EGY/17/2017	cattle	99.8	0	O	EA-3		
viba_35528	Fayoum 1/Egy/2017		99.8	0	O	EA-3		
viba_34159	EGY/4/2017	water buffalo	99.7	0	O	EA-3		
viba_34211	EGY/25/2017	cattle	99.5	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.5	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.5	0	O	EA-3		
viba_34219	EGY/27/2017	cattle	99.5	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.5	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.5	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.5	0	O	EA-3		

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_116	SUD/2/86	bovine	87.8	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.5	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.1	0	O	EA-3		
viba_221	MAL/1/98		84.0	0	O	EA-2		
viba_617	IND/53/79	bovine	83.8	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	83.6	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.5	0	O	EA-2		
viba_359	Manisa/TUR/69		83.5	0	O	ME-SA		
viba_85	UGA/3/2002		83.5	0	O	EA-2		
viba_523	K83/79		83.1	0	O	EA-1		

Virus sample name:	Fayoum 4/Egy/2017
Sender reference:	Fayoum4/Egy/2017
Location of origin:	Fayoum
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35538, genome 35539, sequence viba_35540, sequencing info 35541	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.8	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.8	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.8	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.8	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.8	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.8	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.8	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.8	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.7	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.7	0	O	EA-3		

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_116	SUD/2/86	bovine	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	85.0	0	O	EA-3		
viba_617	IND/53/79	bovine	84.4	0	O	ME-SA		
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_285	UKG/35/2001	porcine	83.9	0	O	ME-SA	PanAsia	
viba_263	TAN/2/2004	bovine	83.8	0	O	EA-2		
viba_359	Manisa/TUR/69		83.8	0	O	ME-SA		
viba_85	UGA/3/2002		83.8	0	O	EA-2		
viba_221	MAL/1/98		83.7	0	O	EA-2		
viba_523	K83/79		83.6	0	O	EA-1		

Virus sample name:	Fayoum 5/Egy/2017
Sender reference:	Fayoum5/Egy/2017
Location of origin:	Fayoum
Country of origin:	Egypt
Date of collection:	2017
Host species:	
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:	15/01/2018
Last updated:	15/01/2018
VIBASys IDs: sample 35542, genome 35543, sequence viba_35544, sequencing info 35545	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34211	EGY/25/2017	cattle	99.5	0	O	EA-3		
viba_35505	Giza 1/Egy/2017		99.5	0	O	EA-3		
viba_34207	EGY/22/2017	water buffalo	99.5	0	O	EA-3		
viba_35525	Behira 2/Egy/2017		99.5	0	O	EA-3		
viba_34175	EGY/9/2017	cattle	99.5	0	O	EA-3		
viba_34171	EGY/8/2017	cattle	99.5	0	O	EA-3		
viba_34183	EGY/11/2017	water buffalo	99.5	0	O	EA-3		
viba_34167	EGY/7/2017	cattle	99.5	0	O	EA-3		
viba_32327	ISR/7/2017	cattle	99.4	0	O	EA-3		
viba_32331	ISR/8/2017	cattle	99.4	0	O	EA-3		

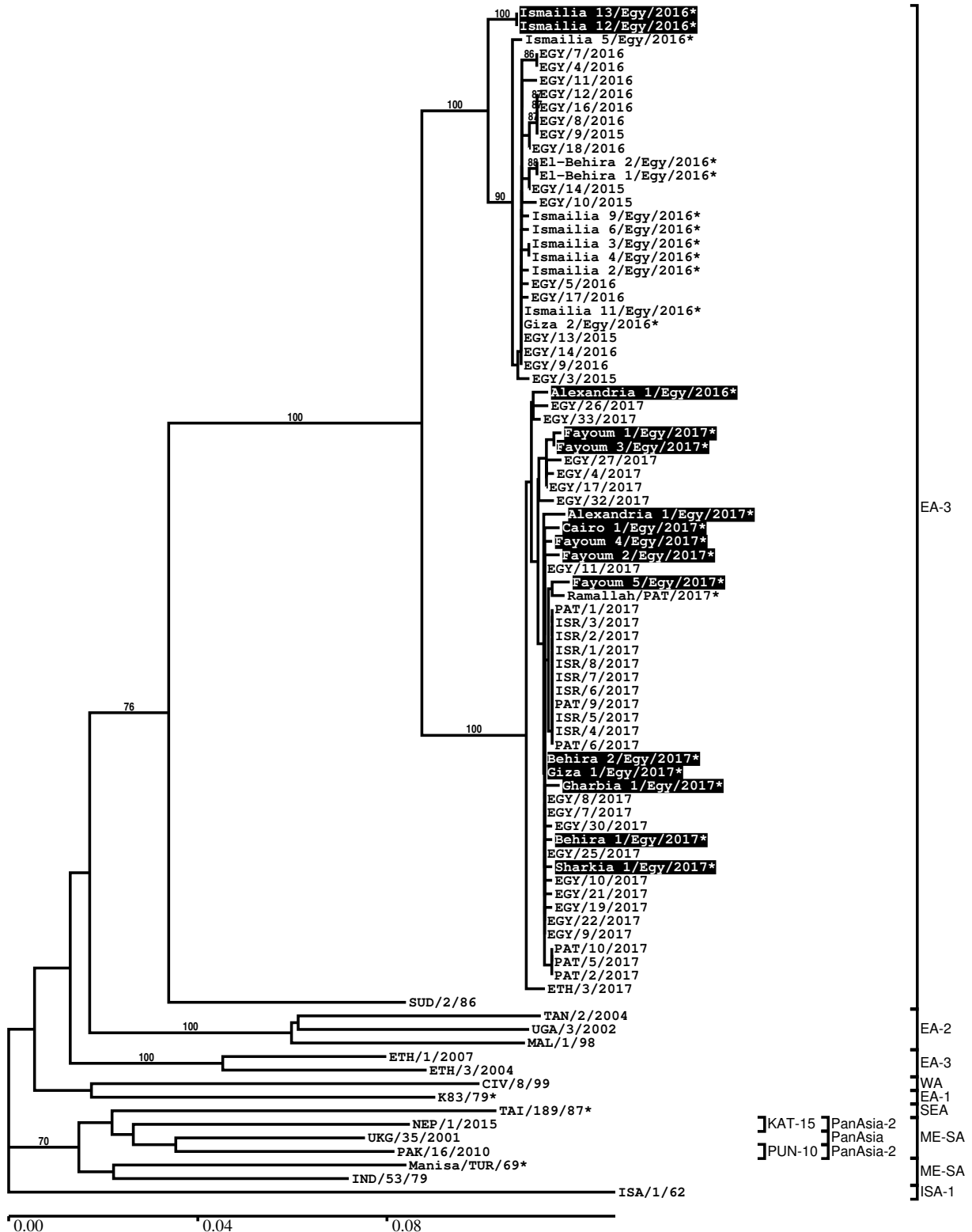
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_116	SUD/2/86	bovine	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.4	0	O	EA-3		
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_617	IND/53/79	bovine	83.8	0	O	ME-SA		
viba_263	TAN/2/2004	bovine	83.6	0	O	EA-2		
viba_285	UKG/35/2001	porcine	83.6	0	O	ME-SA	PanAsia	
viba_85	UGA/3/2002		83.6	0	O	EA-2		
viba_221	MAL/1/98		83.6	0	O	EA-2		
viba_359	Manisa/TUR/69		83.1	0	O	ME-SA		
viba_523	K83/79		82.9	0	O	EA-1		

Report on FMDV O in Egypt in 2016, 2017

Batch: WRLMEG/2018/00004



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor: vp1_O
 Query sequence set: WRLMEG/2018/00004-Egypt-O (15 sequences)
 Sequence database set: allseqs_O (3693 sequences)
 Prototype sequence set: !prototypes_O (48 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
Ismailia 13/Egy/2016*	MF322679	n/a	MEVAC	Egypt	EA-3
Ismailia 12/Egy/2016*	MF322678	n/a	MEVAC	Egypt	EA-3
Ismailia 5/Egy/2016*	KX447128	cattle	Suez Canal Univ	Egypt	EA-3
EGY/7/2016	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/4/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/11/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/12/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/16/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/8/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/9/2015	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/18/2016	n/a	cattle	WRLFMD	Egypt	EA-3
El-Behira 2/Egy/2016*	KX447122	cattle	Suez Canal Univ	Egypt	EA-3
El-Behira 1/Egy/2016*	KX447121	cattle	Suez Canal Univ	Egypt	EA-3
EGY/14/2015	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/10/2015	n/a	cattle	WRLFMD	Egypt	EA-3
Ismailia 9/Egy/2016*	KX447135	cattle	Suez Canal Univ	Egypt	EA-3
Ismailia 6/Egy/2016*	KX447129	cattle	Suez Canal Univ	Egypt	EA-3
Ismailia 3/Egy/2016*	KX447126	cattle	Suez Canal Univ	Egypt	EA-3
Ismailia 4/Egy/2016*	KX447127	cattle	Suez Canal Univ	Egypt	EA-3
Ismailia 2/Egy/2016*	KX447125	cattle	Suez Canal Univ	Egypt	EA-3
EGY/5/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/17/2016	n/a	cattle	WRLFMD	Egypt	EA-3
Ismailia 11/Egy/2016*	KX447138	cattle	Suez Canal Univ	Egypt	EA-3
Giza 2/Egy/2016*	KX447132	cattle	Suez Canal Univ	Egypt	EA-3
EGY/13/2015	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/14/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/9/2016	n/a	cattle	WRLFMD	Egypt	EA-3

continued on next page

label	accession	host(s)	lab	country	taxonomic information
EGY/3/2015	n/a	cattle	WRLFMD	Egypt	EA-3
Alexandria 1/Egy/2016*	MF322680	n/a	MEVAC	Egypt	EA-3
EGY/26/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/33/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Fayoum 1/Egy/2017*	MF322688	n/a	MEVAC	Egypt	EA-3
Fayoum 3/Egy/2017*	MF322690	n/a	MEVAC	Egypt	EA-3
EGY/27/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/4/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/17/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/32/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Alexandria 1/Egy/2017*	MF322681	n/a	MEVAC	Egypt	EA-3
Cairo 1/Egy/2017*	MF322683	n/a	MEVAC	Egypt	EA-3
Fayoum 4/Egy/2017*	MF322691	n/a	MEVAC	Egypt	EA-3
Fayoum 2/Egy/2017*	MF322689	n/a	MEVAC	Egypt	EA-3
EGY/11/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
Fayoum 5/Egy/2017*	MF322692	n/a	MEVAC	Egypt	EA-3
Ramallah/PAT/2017*	n/a	sheep	KVI	Palestinian AT	EA-3
PAT/1/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/3/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/2/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/1/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/8/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/7/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/6/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/9/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/5/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/4/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/6/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
Behira 2/Egy/2017*	MF322687	n/a	MEVAC	Egypt	EA-3
Giza 1/Egy/2017*	MF322682	n/a	MEVAC	Egypt	EA-3
Gharbia 1/Egy/2017*	MF322685	n/a	MEVAC	Egypt	EA-3
EGY/8/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/7/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/30/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Behira 1/Egy/2017*	MF322686	n/a	MEVAC	Egypt	EA-3
EGY/25/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Sharkia 1/Egy/2017*	MF322684	n/a	MEVAC	Egypt	EA-3
EGY/10/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/21/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/19/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/22/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/9/2017	n/a	cattle	WRLFMD	Egypt	EA-3
PAT/10/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/5/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/2/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ETH/3/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
SUD/2/86	DQ165075	bovine	WRLFMD	Sudan	EA-3
TAN/2/2004	KF561679	bovine	WRLFMD	Tanzania	EA-2
UGA/3/2002	DQ165077	n/a	WRLFMD	Uganda	EA-2
MAL/1/98	DQ165074	n/a	WRLFMD	Malawi	EA-2
ETH/1/2007	FJ798137	cattle	WRLFMD	Ethiopia	EA-3
ETH/3/2004	FJ798109	cattle	WRLFMD	Ethiopia	EA-3
CIV/8/99	AJ303485	bovine	WRLFMD	Cote d'Ivoire	WA
K83/79*	AJ303511	n/a	WRLFMD	Kenya	EA-1
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
NEP/1/2015	n/a	cattle	WRLFMD	Nepal	ME-SA/PanAsia-2/KAT-15
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
PAK/16/2010	KY091285	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/PUN-10
Manisa/TUR/69*	AY593823	n/a	PIADC	Turkey	ME-SA
IND/53/79	AF292107	bovine	PD-FMD	India	ME-SA
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

*, not a WRLFMD Reference Number

n/a, not available