

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

Genotyping Report

FMDV serotype: O
Country: Israel
Year: 2017
Batch: WRLFMD/2018/00003
No. of sequences: 4
Report date: 4th February 2018
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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

email: reporting@pirbright.ac.uk

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Virus sample name:	ISR/15/2017
Sender reference:	(11) 293062
Location of origin:	Ein al Sahle
Country of origin:	Israel
Date of collection:	02/06/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	24/01/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	01/02/2018
Created:	02/02/2018
Last updated:	02/02/2018
VIBASys IDs: sample 35738, genome 35739, sequence viba_35740, sequencing info 35741	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34015	Ayn al-Sahla/ISR/2017	cattle	100.0	0	O	EA-3		
viba_34020	Yatta-Kraisah/PAT/2017	cattle	100.0	0	O	EA-3		
viba_35748	ISR/17/2017	cattle	100.0	0	O	EA-3		
viba_35675	PAT/13/2017	cattle	100.0	0	O	EA-3		
viba_35679	PAT/14/2017	cattle	100.0	0	O	EA-3		
viba_32311	ISR/3/2017	cattle	99.8	0	O	EA-3		
viba_34024	Ramallah/PAT/2017	sheep	99.8	0	O	EA-3		
viba_35695	PAT/18/2017	sheep	99.8	0	O	EA-3		
viba_32323	ISR/6/2017	cattle	99.8	0	O	EA-3		
viba_32360	PAT/9/2017	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	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.7	0	O	EA-3		
viba_617	IND/53/79	bovine	84.2	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_359	Manisa/TUR/69		83.8	0	O	ME-SA		
viba_221	MAL/1/98		83.6	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_766	IRN/31/2009	cattle	83.6	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	ISR/16/2017
Sender reference:	(12) 293062
Location of origin:	Ein al Sahle
Country of origin:	Israel
Date of collection:	02/06/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	24/01/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	01/02/2018
Created:	02/02/2018
Last updated:	02/02/2018
VIBASys IDs: sample 35742, genome 35743, sequence viba_35744, sequencing info 35745	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34015	Ayn al-Sahla/ISR/2017	cattle	99.8	0	O	EA-3		
viba_34020	Yatta-Kraisah/PAT/2017	cattle	99.8	0	O	EA-3		
viba_35752	ISR/18/2017	cattle	99.8	1	O	EA-3		
viba_35748	ISR/17/2017	cattle	99.8	0	O	EA-3		
viba_35675	PAT/13/2017	cattle	99.8	0	O	EA-3		
viba_35679	PAT/14/2017	cattle	99.8	0	O	EA-3		
viba_35740	ISR/15/2017	cattle	99.8	0	O	EA-3		
viba_32311	ISR/3/2017	cattle	99.7	0	O	EA-3		
viba_34024	Ramallah/PAT/2017	sheep	99.7	0	O	EA-3		
viba_35695	PAT/18/2017	sheep	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	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.5	0	O	EA-3		
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	83.9	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	83.8	0	O	EA-3		
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_766	IRN/31/2009	cattle	83.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_221	MAL/1/98		83.4	0	O	EA-2		

Virus sample name:	ISR/17/2017
Sender reference:	(13) 293062
Location of origin:	Ein al Sahle
Country of origin:	Israel
Date of collection:	05/06/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	BTy1
Harvest date of material:	24/01/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	01/02/2018
Created:	02/02/2018
Last updated:	02/02/2018
VIBASys IDs: sample 35746, genome 35747, sequence viba_35748, sequencing info 35749	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34015	Ayn al-Sahla/ISR/2017	cattle	100.0	0	O	EA-3		
viba_34020	Yatta-Kraisah/PAT/2017	cattle	100.0	0	O	EA-3		
viba_35675	PAT/13/2017	cattle	100.0	0	O	EA-3		
viba_35679	PAT/14/2017	cattle	100.0	0	O	EA-3		
viba_35740	ISR/15/2017	cattle	100.0	0	O	EA-3		
viba_32311	ISR/3/2017	cattle	99.8	0	O	EA-3		
viba_34024	Ramallah/PAT/2017	sheep	99.8	0	O	EA-3		
viba_35695	PAT/18/2017	sheep	99.8	0	O	EA-3		
viba_32323	ISR/6/2017	cattle	99.8	0	O	EA-3		
viba_32360	PAT/9/2017	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	88.2	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.7	0	O	EA-3		
viba_617	IND/53/79	bovine	84.2	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	84.1	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	84.0	0	O	EA-3		
viba_359	Manisa/TUR/69		83.8	0	O	ME-SA		
viba_221	MAL/1/98		83.6	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_766	IRN/31/2009	cattle	83.6	0	O	ME-SA	PanAsia-2	FAR-09

Virus sample name:	ISR/18/2017
Sender reference:	(14) 293062
Location of origin:	Ein al Sahle
Country of origin:	Israel
Date of collection:	05/06/2017
Host species:	cattle
Serotype:	O
Topotype:	EA-3
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	1
Material submitted for sequencing:	BTy1
Harvest date of material:	24/01/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	01/02/2018
Created:	02/02/2018
Last updated:	02/02/2018
VIBASys IDs: sample 35750, genome 35751, sequence viba_35752, sequencing info 35753	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_34015	Ayn al-Sahla/ISR/2017	cattle	99.8	0	O	EA-3		
viba_34020	Yatta-Kraisah/PAT/2017	cattle	99.8	0	O	EA-3		
viba_35748	ISR/17/2017	cattle	99.8	0	O	EA-3		
viba_35744	ISR/16/2017	cattle	99.8	0	O	EA-3		
viba_35675	PAT/13/2017	cattle	99.8	0	O	EA-3		
viba_35679	PAT/14/2017	cattle	99.8	0	O	EA-3		
viba_35740	ISR/15/2017	cattle	99.8	0	O	EA-3		
viba_32311	ISR/3/2017	cattle	99.7	0	O	EA-3		
viba_34024	Ramallah/PAT/2017	sheep	99.7	0	O	EA-3		
viba_35695	PAT/18/2017	sheep	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	88.0	0	O	EA-3		
viba_854	ETH/1/2007	cattle	84.5	0	O	EA-3		
viba_617	IND/53/79	bovine	84.1	0	O	ME-SA		
viba_285	UKG/35/2001	porcine	83.9	0	O	ME-SA	PanAsia	
viba_408	ETH/3/2004	cattle	83.8	0	O	EA-3		
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_766	IRN/31/2009	cattle	83.5	0	O	ME-SA	PanAsia-2	FAR-09
viba_221	MAL/1/98		83.4	0	O	EA-2		

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLFMD/2018/00003-Israel-O (4 sequences)
Sequence database set:	allseqs_O (3715 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:	10
VIBASys version:	reflabs-1.1.2

Sequences in the Phylogenetic Tree

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

label	accession	host(s)	lab	country	taxonomic information
ISR/15/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/22/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/21/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/20/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Bani Na'im/PAT/2017 308618*	n/a	sheep	KVI	Palestinian AT	EA-3
PAT/19/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
PAT/13/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/18/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/16/2017	n/a	cattle	WRLFMD	Israel	EA-3
Bani Na'im/PAT/2017 C*	n/a	sheep	KVI	Palestinian AT	EA-3
Bani Na'im/PAT/2017 A*	n/a	sheep	KVI	Palestinian AT	EA-3
Bani Na'im/PAT/2017 B*	n/a	sheep	KVI	Palestinian AT	EA-3
PAT/17/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
PAT/16/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Ayn al-Sahla/ISR/2017*	n/a	cattle	KVI	Israel	EA-3
PAT/14/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/17/2017	n/a	cattle	WRLFMD	Israel	EA-3
West Bank/PAT/2017*	n/a	sheep	KVI	Palestinian AT	EA-3
PAT/12/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
PAT/11/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Yatta-Kraisah/PAT/2017*	n/a	cattle	KVI	Palestinian AT	EA-3
PAT/18/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
PAT/15/2017	n/a	sheep	WRLFMD	Palestinian AT	EA-3
Ramallah/PAT/2017*	n/a	sheep	KVI	Palestinian AT	EA-3
ISR/3/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/9/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/8/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/4/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/6/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/1/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/7/2017	n/a	cattle	WRLFMD	Israel	EA-3
ISR/1/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/6/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/2/2017	n/a	cattle	WRLFMD	Israel	EA-3
PAT/4/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
ISR/5/2017	n/a	cattle	WRLFMD	Israel	EA-3

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label	accession	host(s)	lab	country	taxonomic information
Fayoum 5/Egy/2017*	MF322692	n/a	MEVAC	Egypt	EA-3
EGY/7/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Fayoum 4/Egy/2017*	MF322691	n/a	MEVAC	Egypt	EA-3
Cairo 1/Egy/2017*	MF322683	n/a	MEVAC	Egypt	EA-3
EGY/9/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/10/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
Gharbia 1/Egy/2017*	MF322685	n/a	MEVAC	Egypt	EA-3
EGY/22/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
EGY/30/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/21/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Sharkia 1/Egy/2017*	MF322684	n/a	MEVAC	Egypt	EA-3
EGY/28/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/19/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/25/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/31/2017	n/a	cattle	WRLFMD	Egypt	EA-3
Behira 2/Egy/2017*	MF322687	n/a	MEVAC	Egypt	EA-3
Giza 1/Egy/2017*	MF322682	n/a	MEVAC	Egypt	EA-3
Behira 1/Egy/2017*	MF322686	n/a	MEVAC	Egypt	EA-3
EGY/6/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/8/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/11/2017	n/a	water buffalo	WRLFMD	Egypt	EA-3
Fayoum 2/Egy/2017*	MF322689	n/a	MEVAC	Egypt	EA-3
EGY/16/2017	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/13/2017	n/a	cattle	WRLFMD	Egypt	EA-3
PAT/5/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/7/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/2/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
PAT/10/2017	n/a	cattle	WRLFMD	Palestinian AT	EA-3
Alexandria 1/Egy/2017*	MF322681	n/a	MEVAC	Egypt	EA-3
EGY/32/2017	n/a	cattle	WRLFMD	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
Fayoum 1/Egy/2017*	MF322688	n/a	MEVAC	Egypt	EA-3
Fayoum 3/Egy/2017*	MF322690	n/a	MEVAC	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
ETH/2/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/3/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/4/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
ETH/5/2017	n/a	cattle	WRLFMD	Ethiopia	EA-3
SUD/4/2013	n/a	cattle	WRLFMD	Sudan	EA-3
Ismailia 13/Egy/2016*	MF322679	n/a	MEVAC	Egypt	EA-3
Ismailia 12/Egy/2016*	MF322678	n/a	MEVAC	Egypt	EA-3
EGY/9/2016	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/13/2015	n/a	cattle	WRLFMD	Egypt	EA-3
Giza 2/Egy/2016*	KX447132	cattle	Suez Canal Univ	Egypt	EA-3
Ismailia 11/Egy/2016*	KX447138	cattle	Suez Canal Univ	Egypt	EA-3
Ismailia 5/Egy/2016*	KX447128	cattle	Suez Canal Univ	Egypt	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/3/2004	FJ798109	cattle	WRLFMD	Ethiopia	EA-3
ETH/1/2007	FJ798137	cattle	WRLFMD	Ethiopia	EA-3
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
UKG/35/2001	AJ539141	porcine	PIADC	United Kingdom	ME-SA/PanAsia
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