

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

Genotyping Report

FMDV serotype: O
Country: Vietnam
Year: 2018
Batch: WRLMEG/2018/00045
No. of sequences: 1
Report date: 17th December 2018
Report generated by: Nick Knowles
Report checked by: Antonello Di Nardo

This report is prepared on behalf of the Regional Animal Health Office No.6 (RAHO6), Ho Chi Minh City, Vietnam, and covers a VP1 sequence submitted to the WRLFMD on 17 December 2018.



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

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Virus sample name:	VN 18-27160
Sender reference:	O_VN_18-27160
Location of origin:	n/a
Country of origin:	Vietnam
Date of collection:	11/2018
Host species:	porcine
Serotype:	O
Topotype:	SEA
Lineage:	Mya-98
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:	17/12/2018
Last updated:	17/12/2018
VIBASys IDs: sample 37713, genome 37714, sequence viba_37715, sequencing info 37716	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_23191	JC/CB/ROK	porcine	94.3	0	O	SEA	Mya-98	
viba_23177	SKR/16/2014	porcine	94.3	0	O	SEA	Mya-98	
viba_23173	SKR/14/2014	porcine	94.3	0	O	SEA	Mya-98	
viba_23181	SKR/18/2014	porcine	94.3	0	O	SEA	Mya-98	
viba_23169	SKR/12/2014	porcine	94.2	0	O	SEA	Mya-98	
viba_23731	Gimje/KOR/2016	porcine	93.8	0	O	SEA	Mya-98	
viba_23710	SKR/1/2016	porcine	93.8	0	O	SEA	Mya-98	
viba_23829	SKR/6/2016	porcine	93.8	0	O	SEA	Mya-98	
viba_23833	SKR/7/2016	porcine	93.8	0	O	SEA	Mya-98	
viba_23141	Primorskiy/RUS/2014	porcine	93.8	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	90.4	0	O	SEA	Mya-98	
viba_68	TAI/189/87	bovine	87.2	0	O	SEA		
viba_766	IRN/31/2009	cattle	84.4	0	O	ME-SA	PanAsia-2	FAR-09
viba_666	IRN/18/2010	cattle	84.2	0	O	ME-SA	PanAsia-2	BAL-09
viba_850	NEP/1/2015	cattle	84.1	1	O	ME-SA	PanAsia-2	KAT-15
viba_354	PAK/16/2010	cattle	84.1	0	O	ME-SA	PanAsia-2	PUN-10
viba_285	UKG/35/2001	porcine	83.7	0	O	ME-SA	PanAsia	
viba_523	K83/79		83.7	0	O	EA-1		
viba_576	IND/R2/75		83.7	0	O	ME-SA		
viba_650	IRN/8/2005	ovine	83.6	0	O	ME-SA	PanAsia-2	

Analysis Parameters

VP1 subsequence extractor:	vp1_O
Query sequence set:	WRLMEG/2018/00045-Vietnam-O (1 sequences)
Sequence database set:	allseqs_O (3918 sequences)
Prototype sequence set:	!prototypes_O (49 sequences)
Number of related sequences reported:	10
Minimal VP1 subsequence match length	600
Sequence alignment method:	muscle (default parameters)
Sequence alignment length:	636
Phylogeny reconstruction method:	fdnadist, fneighbor
Number of bootstrap samples:	1000
Random seed for bootstrapping:	1
Displaying bootstrap values above:	70.0%
Number of sequences in tree capped at:	100
Number of prototype sequences in tree:	10
VIBASys version:	reflabs-1.1.2

Sequences in the Phylogenetic Tree

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

label	accession	host(s)	lab	country	taxonomic information
VN 18-27160*	n/a	porcine	RAHO6	Vietnam	SEA/Mya-98
SKR/01/2014*	n/a	porcine	Animal and Plant Quarantine Agency	Republic of Korea (South Korea)	SEA/Mya-98
SKR/6/2014	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
Primorskiy/RUS/2014*	n/a	porcine	ARRIAH	Russia	SEA/Mya-98
SKR/3/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/7/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
Gimje/KOR/2016*	n/a	porcine	QIA	Republic of Korea (South Korea)	SEA/Mya-98
SKR/5/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/1/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/6/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/2/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/4/2016	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
JC/CB/ROK*	n/a	porcine	Animal and Plant Quarantine Agency	Republic of Korea (South Korea)	SEA/Mya-98
SKR/12/2014	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98

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label	accession	host(s)	lab	country	taxonomic information
SKR/16/2014	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/18/2014	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/14/2014	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
MAY/30/2009	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
VIT/NCVD-20/2010*	n/a	cattle	NVRQS	Vietnam	SEA/Mya-98
VIT/NCVD-18/2010*	n/a	cattle	NVRQS	Vietnam	SEA/Mya-98
VIT/NCVD-17/2010*	n/a	cattle	NVRQS	Vietnam	SEA/Mya-98
VIT/NCVD-19/2010*	n/a	cattle	NVRQS	Vietnam	SEA/Mya-98
TAI/22/2009	HQ116269	porcine	WRLFMD	Thailand	SEA/Mya-98
MYA/6/2009	HQ116229	cattle	WRLFMD	Myanmar	SEA/Mya-98
MYA/5/2009	HQ116228	cattle	WRLFMD	Myanmar	SEA/Mya-98
33-P/CHA/2010*	JQ973889	bovine	LVRI	China	SEA/Mya-98
SKR/4/2010	JQ070320	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
KOR/1/2010*	HM143846	cattle	NVRQS	Republic of Korea (South Korea)	SEA/Mya-98
TAW/1/2012	n/a	porcine	WRLFMD	Taiwan	SEA/Mya-98
HKN/18/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/4/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/1/2010	JQ070301	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/6/2010	JQ070302	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/19/2010	JQ070305	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/20/2010	HM229661	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
NC/CHA/2010*	HQ652080	porcine	SiChuan University	China	SEA/Mya-98
GSLX/CHA/2010*	JQ900581	porcine	LVRI	China	SEA/Mya-98
VIT/NCVD-9/2010*	n/a	cattle	NVRQS	Vietnam	SEA/Mya-98
VIT/NCVD-8/2010*	n/a	cattle	NVRQS	Vietnam	SEA/Mya-98
GZ/CHA/2010*	JN998086	cattle	LVRI	China	SEA/Mya-98
MY/CHA/2010*	HQ652079	porcine	SiChuan University	China	SEA/Mya-98
SKR/13/2010	n/a	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/1/2011	n/a	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/7/2010	n/a	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
Paju/SKR/2010*	n/a	cattle	NVRQS	Republic of Korea (South Korea)	SEA/Mya-98
SKR/3/2011	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
DY/CHA/2010*	HQ652078	porcine	SiChuan University	China	SEA/Mya-98
RUS/Jul 2010*	JQ070329	porcine	ARRIAH	Russia	SEA/Mya-98
DRK/31/2011	n/a	cattle	WRLFMD	Democratic People's Republic of Korea	SEA/Mya-98
BY/CHA/2010*	JN998085	porcine	LVRI	China	SEA/Mya-98
CHA/31/2010*	JF792356	porcine	LVRI	China	SEA/Mya-98
JPN/1/2010	n/a	cattle	WRLFMD	Japan	SEA/Mya-98
JPN/MZ1/2010*	AB618503	cattle	NIAH-Japan	Japan	SEA/Mya-98
TZ/CHA/2010*	HQ652081	porcine	SiChuan University	China	SEA/Mya-98

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label	accession	host(s)	lab	country	taxonomic information
SKR/12/2010	KC438373	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/10/2010	n/a	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
Andong 1/SKR/2010*	n/a	porcine	NVRQS	Republic of Korea (South Korea)	SEA/Mya-98
SKR/5/2010	JQ070321	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/6/2010	n/a	porcine	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
SKR/8/2011	n/a	cattle	WRLFMD	Republic of Korea (South Korea)	SEA/Mya-98
Yangju/SKR/2010*	n/a	porcine	NVRQS	Republic of Korea (South Korea)	SEA/Mya-98
Yeoncheon/SKR/2010*	n/a	porcine	NVRQS	Republic of Korea (South Korea)	SEA/Mya-98
HKN/1/2011	JQ070306	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/2/2011	JQ070307	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/8/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/13/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/7/2010	JQ070303	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/15/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/14/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/12/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/11/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/10/2010	n/a	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
HKN/9/2010	JQ070304	porcine	WRLFMD	Hong Kong SAR	SEA/Mya-98
MAY/6/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/11/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/10/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/12/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/13/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/14/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/17/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/16/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MAY/15/2012	n/a	cattle	WRLFMD	Malaysia	SEA/Mya-98
MYA/10/2009	HQ116231	cattle	WRLFMD	Myanmar	SEA/Mya-98
MYA/11/2009	HQ116232	cattle	WRLFMD	Myanmar	SEA/Mya-98
MYA/13/2009	n/a	cattle	WRLFMD	Myanmar	SEA/Mya-98
MYA/3/2010	JQ070319	cattle	WRLFMD	Myanmar	SEA/Mya-98
VIT/4/2005	HQ116278	cattle	WRLFMD	Vietnam	SEA/Mya-98
MOG/2004*	JQ070324	n/a	ARRIAH	Mongolia	SEA/Mya-98
MYA/7/98	DQ164925	bovine	WRLFMD	Myanmar	SEA/Mya-98
MYA/1/2006	JQ070316	porcine	WRLFMD	Myanmar	SEA/Mya-98
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
K83/79*	AJ303511	n/a	WRLFMD	Kenya	EA-1
IND/R2/75*	AF204276	n/a	PD-FMD	India	ME-SA
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
IRN/18/2010	KY091283	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/BAL-09
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/8/2005	KY091281	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

*, not a WRLFMD Reference Number

n/a, not available