

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

Genotyping Report v.3

FMDV serotype: O
Country: Nigeria
Year: 2020
Batch: WRLMEG/2020/00037
No. of sequences: 1
Report date: 17th December 2020
Report generated by: Nick Knowles
Report checked by: Jemma Wadsworth

This report has been prepared on behalf of the National Centre for Foreign Animal Disease (NCFAD), Canadian Food Inspection Agency (CFIA/ACIA), Winnipeg, Manitoba, Canada and the National Veterinary Research Institute (NVRI), Vom, Nigeria and covers VP1 sequences submitted to the WRLFMD on 25/11/2020.



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Virus sample name:	PL/JS/04/NIG/2020
Sender reference:	PL/JS/04/20
Location of origin:	Plateau State
Country of origin:	Nigeria
Date of collection:	2020
Host species:	
Serotype:	O
Topotype:	WA
Lineage:	
Sublineage:	
Sequence length:	600
Ambiguities:	9
Material submitted for sequencing:	n/a
Harvest date of material:	n/a
Primers:	n/a
Received for sequencing:	n/a
Created:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45874, genome 45875, sequence viba_45876, sequencing info 45877	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_23002	NIG/2/2014	bovine	92.0	0	O	WA		
viba_22998	NIG/1/2014	bovine	92.0	0	O	WA		
viba_23006	NIG/3/2014	bovine	91.9	0	O	WA		
viba_23010	NIG/4/2014	bovine	91.9	0	O	WA		
viba_20045	NIG/4/2012	bovine	90.3	0	O	WA		
viba_20049	NIG/5/2012	bovine	90.3	0	O	WA		
viba_31613	NIG/6/13	bovine	90.2	0	O	WA		
viba_31617	NIG/7/13	bovine	90.2	0	O	WA		
viba_31609	NIG/1/13	bovine	90.0	0	O	WA		
viba_46004	NIG/08/2013	cattle	90.0	0	O	WA		

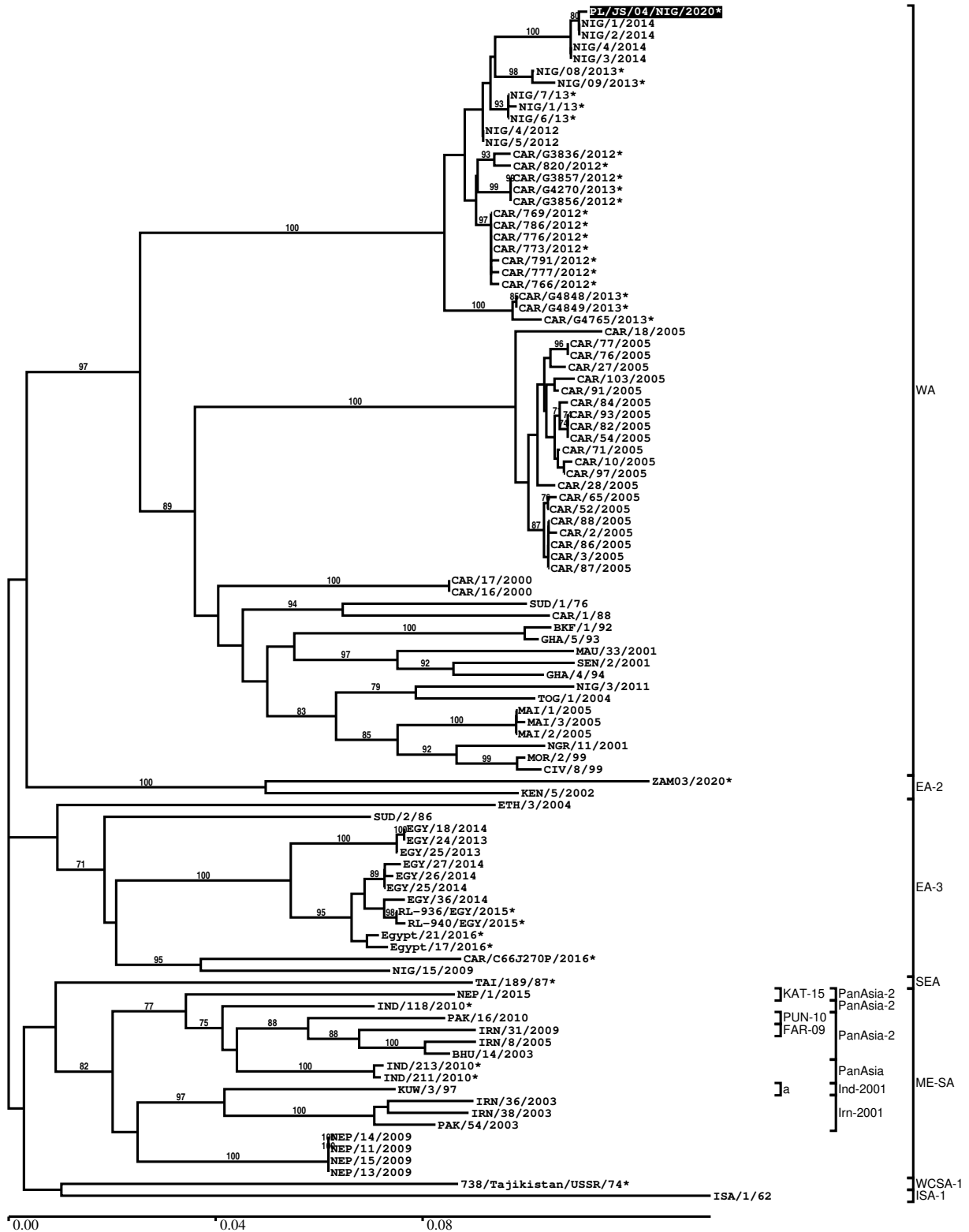
Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_104	GHA/5/93	bovine	78.7	0	O	WA		
viba_302	CIV/8/99	bovine	77.8	0	O	WA		
viba_850	NEP/1/2015	cattle	77.4	1	O	ME-SA	PanAsia-2	KAT-15
viba_116	SUD/2/86	bovine	77.3	0	O	EA-3		
viba_650	IRN/8/2005	ovine	77.0	0	O	ME-SA	PanAsia-2	
viba_705	KUW/3/97	bovine	76.8	0	O	ME-SA	Ind-2001	a
viba_408	ETH/3/2004	cattle	76.8	0	O	EA-3		
viba_354	PAK/16/2010	cattle	76.7	0	O	ME-SA	PanAsia-2	PUN-10
viba_766	IRN/31/2009	cattle	76.6	0	O	ME-SA	PanAsia-2	FAR-09
viba_74	KEN/5/2002	bovine	76.6	0	O	EA-2		

Report on FMDV O in Nigeria in 2020

Batch: WRLMEG/2020/00037B



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor: vp1_O
 Query sequence set: WRLMEG/2020/00037B-Nigeria-O (1 sequences)
 Sequence database set: allseqs_O (4829 sequences)
 Prototype sequence set: !prototypes_O (49 sequences)
 Number of related sequences reported: 10
 Minimal VP1 subsequence match length: 600
 Sequence alignment method: muscle (default parameters)
 Sequence alignment length: 636
 Phylogeny reconstruction method: fdnadist, fneighbor
 Number of bootstrap samples: 1000
 Random seed for bootstrapping: 1
 Displaying bootstrap values above: 70.0%
 Number of sequences in tree capped at: 100
 Number of prototype sequences in tree: 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
PL/JS/04/NIG/2020*	n/a	n/a	NCFAD/NVRI	Nigeria	WA
NIG/1/2014	KX258028	bovine	WRLFMD	Nigeria	WA
NIG/2/2014	KX258029	bovine	WRLFMD	Nigeria	WA
NIG/4/2014	KX258031	bovine	WRLFMD	Nigeria	WA
NIG/3/2014	KX258030	bovine	WRLFMD	Nigeria	WA
NIG/08/2013*	MT239372	cattle	Sciensano	Nigeria	WA
NIG/09/2013*	MT239373	cattle	Sciensano	Nigeria	WA
NIG/7/13*	KY019289	bovine	CODA-CERVA	Nigeria	WA
NIG/1/13*	KY019287	bovine	CODA-CERVA	Nigeria	WA
NIG/6/13*	KY019288	bovine	CODA-CERVA	Nigeria	WA
NIG/4/2012	KX258026	bovine	WRLFMD	Nigeria	WA
NIG/5/2012	KX258027	bovine	WRLFMD	Nigeria	WA
CAR/G3836/2012*	KY581682	cattle	PIADC	Cameroon	WA
CAR/820/2012*	KU720581	cattle	PIADC	Cameroon	WA
CAR/G3857/2012*	MH383077	cattle	PIADC	Cameroon	WA
CAR/G4270/2013*	MH383081	cattle	PIADC	Cameroon	WA
CAR/G3856/2012*	KY581681	cattle	PIADC	Cameroon	WA
CAR/769/2012*	KU720575	cattle	PIADC	Cameroon	WA
CAR/786/2012*	KU720579	cattle	PIADC	Cameroon	WA
CAR/776/2012*	KU720577	cattle	PIADC	Cameroon	WA
CAR/773/2012*	KU720576	cattle	PIADC	Cameroon	WA
CAR/791/2012*	KU720580	cattle	PIADC	Cameroon	WA
CAR/777/2012*	KU720578	cattle	PIADC	Cameroon	WA
CAR/766/2012*	KU720574	cattle	PIADC	Cameroon	WA
CAR/G4848/2013*	KY581677	cattle	PIADC	Cameroon	WA
CAR/G4849/2013*	KY581676	cattle	PIADC	Cameroon	WA
CAR/G4765/2013*	KY581678	cattle	PIADC	Cameroon	WA
CAR/18/2005	KX258107	cattle	WRLFMD	Cameroon	WA
CAR/77/2005	KX258115	cattle	WRLFMD	Cameroon	WA
CAR/76/2005	KX258114	cattle	WRLFMD	Cameroon	WA
CAR/27/2005	KX258108	cattle	WRLFMD	Cameroon	WA
CAR/103/2005	KX258124	cattle	WRLFMD	Cameroon	WA
CAR/91/2005	KX258121	cattle	WRLFMD	Cameroon	WA
CAR/84/2005	KX258117	cattle	WRLFMD	Cameroon	WA
CAR/93/2005	KX258122	cattle	WRLFMD	Cameroon	WA
CAR/82/2005	KX258116	cattle	WRLFMD	Cameroon	WA

continued on next page

label	accession	host(s)	lab	country	taxonomic information
CAR/54/2005	KX258111	cattle	WRLFMD	Cameroon	WA
CAR/71/2005	KX258113	cattle	WRLFMD	Cameroon	WA
CAR/10/2005	KX258102	cattle	WRLFMD	Cameroon	WA
CAR/97/2005	KX258123	cattle	WRLFMD	Cameroon	WA
CAR/28/2005	KX258109	cattle	WRLFMD	Cameroon	WA
CAR/65/2005	KX258112	cattle	WRLFMD	Cameroon	WA
CAR/52/2005	KX258110	cattle	WRLFMD	Cameroon	WA
CAR/88/2005	KX258120	cattle	WRLFMD	Cameroon	WA
CAR/2/2005	KX258100	cattle	WRLFMD	Cameroon	WA
CAR/86/2005	KX258118	cattle	WRLFMD	Cameroon	WA
CAR/3/2005	KX258101	cattle	WRLFMD	Cameroon	WA
CAR/87/2005	KX258119	cattle	WRLFMD	Cameroon	WA
CAR/17/2000	HM211081	n/a	WRLFMD	Cameroon	WA
CAR/16/2000	HM211080	n/a	WRLFMD	Cameroon	WA
SUD/1/76	KX258037	n/a	WRLFMD	Sudan	WA
CAR/1/88	KX258097	n/a	WRLFMD	Cameroon	WA
BKF/1/92	HM211076	n/a	WRLFMD	Burkina Faso	WA
GHA/5/93	AJ303488	bovine	WRLFMD	Ghana	WA
MAU/33/2001	KX258014	n/a	WRLFMD	Mauritania	WA
SEN/2/2001	KX424684	cattle	WRLFMD	Senegal	WA
GHA/4/94	n/a	n/a	WRLFMD	Ghana	WA
NIG/3/2011	KX258023	bovine	WRLFMD	Nigeria	WA
TOG/1/2004	KX258038	cattle	WRLFMD	Togo	WA
MAI/1/2005	KX258007	cattle	n/a	Mali	WA
MAI/3/2005	KX258009	cattle	n/a	Mali	WA
MAI/2/2005	KX258008	cattle	n/a	Mali	WA
NGR/11/2001	KX258016	n/a	WRLFMD	Niger	WA
MOR/2/99	KX258015	n/a	WRLFMD	Morocco	WA
CIV/8/99	AJ303485	bovine	WRLFMD	Cote d'Ivoire	WA
ZAM03/2020*	n/a	bovine	BVI	Zambia	EA-2
KEN/5/2002	DQ165073	bovine	WRLFMD	Kenya	EA-2
ETH/3/2004	FJ798109	cattle	WRLFMD	Ethiopia	EA-3
SUD/2/86	DQ165075	bovine	WRLFMD	Sudan	EA-3
EGY/18/2014	KX258004	water buffalo	WRLFMD	Egypt	EA-3
EGY/24/2013	KX258001	cattle	WRLFMD	Egypt	EA-3
EGY/25/2013	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/27/2014	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/26/2014	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/25/2014	n/a	cattle	WRLFMD	Egypt	EA-3
EGY/36/2014	n/a	cattle	WRLFMD	Egypt	EA-3
RL-936/EGY/2015*	n/a	cattle	IZSLER	Egypt	EA-3
RL-940/EGY/2015*	n/a	cattle	IZSLER	Egypt	EA-3
Egypt/21/2016*	MG925048	cattle	NRC-CAIRO	Egypt	EA-3
Egypt/17/2016*	MG925046	cattle	NRC-CAIRO	Egypt	EA-3
CAR/C66J270P/2016*	MG873215	cattle	PIADC	Cameroon	EA-3
NIG/15/2009	KX258021	cattle	WRLFMD	Nigeria	EA-3
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
NEP/1/2015	MN276045	cattle	WRLFMD	Nepal	ME-SA/PanAsia-2/KAT-15
IND/118/2010*	KC506430	cattle	PD-FMD	India	ME-SA/PanAsia-2
PAK/16/2010	KY091285	cattle	WRLFMD	Pakistan	ME-SA/PanAsia-2/PUN-10
IRN/31/2009	KY091284	cattle	WRLFMD	Iran	ME-SA/PanAsia-2/FAR-09
IRN/8/2005	KY091281	ovine	WRLFMD	Iran	ME-SA/PanAsia-2
BHU/14/2003	n/a	cattle	WRLFMD	Bhutan	ME-SA/PanAsia-2
IND/213/2010*	KC506437	cattle	PD-FMD	India	ME-SA/PanAsia
IND/211/2010*	KC506436	cattle	PD-FMD	India	ME-SA/PanAsia
KUW/3/97	DQ164904	bovine	WRLFMD	Kuwait	ME-SA/Ind-2001/a
IRN/36/2003	n/a	n/a	WRLFMD	Iran	ME-SA/Irn-2001
IRN/38/2003	n/a	sheep	WRLFMD	Iran	ME-SA/Irn-2001
PAK/54/2003	n/a	n/a	WRLFMD	Pakistan	ME-SA/Irn-2001
NEP/14/2009	n/a	water buffalo	WRLFMD	Nepal	ME-SA
NEP/11/2009	n/a	cattle	WRLFMD	Nepal	ME-SA
NEP/15/2009	n/a	cattle	WRLFMD	Nepal	ME-SA
NEP/13/2009	n/a	water buffalo	WRLFMD	Nepal	ME-SA
738/Tajikistan/USSR/74*	n/a	cattle	ARRIAH	USSR	WCSA-1
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1

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n/a, not available