

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

Genotyping Report v.2

FMDV serotype: A
Country: Nigeria
Year: 2019, 2020
Batch: WRLMEG/2020/00037
No. of sequences: 10
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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www: <http://www.wrlfmd.org/>

email: reporting@pirbright.ac.uk

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Virus sample name:	TA/SA/03/NIG/2019
Sender reference:	TA/SA/03/19
Location of origin:	Taraba State
Country of origin:	Nigeria
Date of collection:	27/04/2019
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
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:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45782, genome 45783, sequence viba_45784, sequencing info 45785	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45788	PL/BLD/02/NIG/2019	bovine	98.9	0	A	AFRICA	G-IV	
viba_45804	PL/DUNG/1/NIG/2019	bovine	94.7	10	A	AFRICA	G-IV	
viba_45808	PL/DUNG/1/NIG/2019/iso	bovine	94.7	10	A	AFRICA	G-IV	
viba_40976	NIG/13/16a	cattle	94.5	0	A	AFRICA	G-IV	
viba_40944	NIG/5/16a	cattle	94.5	0	A	AFRICA	G-IV	
viba_40936	NIG/3/16a	cattle	94.5	0	A	AFRICA	G-IV	
viba_40960	NIG/9/16a	cattle	94.5	0	A	AFRICA	G-IV	
viba_40940	NIG/4/16a	cattle	94.5	0	A	AFRICA	G-IV	
viba_40948	NIG/6/16a	cattle	94.3	0	A	AFRICA	G-IV	
viba_45944	NIG/05/2017	cattle	93.8	0	A	AFRICA	G-IV	

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_178	SUD/3/77		86.3	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		84.6	0	A	AFRICA	G-I	
viba_609	GHA/16/73	bovine	83.4	0	A	AFRICA	G-VI	
viba_173	UGA/13/66	bovine	83.3	0	A	AFRICA	G-VII	
viba_785	KEN/3/64		83.0	0	A	AFRICA	G-III	
viba_535	NGR/2/73	bovine	83.0	0	A	AFRICA	G-V	
viba_699	UKG/119/32		82.3	0	A	EURO-SA	A12	
viba_435	Allier/FRA/60		81.9	0	A	EURO-SA	A5	
viba_688	EGY/1/72	bovine	81.2	0	A	AFRICA	G-II	
viba_594	IRN/1/2011	bovine	80.8	0	A	ASIA	Iran-05	FAR-11

Virus sample name:	PL/BLD/02/NIG/2019
Sender reference:	PL/BLD/02/19
Location of origin:	Plateau State
Country of origin:	Nigeria
Date of collection:	08/05/2019
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
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:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45786, genome 45787, sequence viba_45788, sequencing info 45789	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45784	TA/SA/03/NIG/2019	bovine	98.9	0	A	AFRICA	G-IV	
viba_45804	PL/DUNG/1/NIG/2019	bovine	95.2	10	A	AFRICA	G-IV	
viba_45808	PL/DUNG/1/NIG/2019/iso	bovine	95.2	10	A	AFRICA	G-IV	
viba_40976	NIG/13/16a	cattle	94.6	0	A	AFRICA	G-IV	
viba_40944	NIG/5/16a	cattle	94.6	0	A	AFRICA	G-IV	
viba_40936	NIG/3/16a	cattle	94.6	0	A	AFRICA	G-IV	
viba_40960	NIG/9/16a	cattle	94.6	0	A	AFRICA	G-IV	
viba_40940	NIG/4/16a	cattle	94.6	0	A	AFRICA	G-IV	
viba_40948	NIG/6/16a	cattle	94.5	0	A	AFRICA	G-IV	
viba_39605	CAR/LAN10/2014	cattle	94.3	0	A	AFRICA	G-IV	

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_178	SUD/3/77		85.9	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		84.4	0	A	AFRICA	G-I	
viba_173	UGA/13/66	bovine	83.3	0	A	AFRICA	G-VII	
viba_785	KEN/3/64		83.0	0	A	AFRICA	G-III	
viba_609	GHA/16/73	bovine	82.7	0	A	AFRICA	G-VI	
viba_435	Allier/FRA/60		81.9	0	A	EURO-SA	A5	
viba_699	UKG/119/32		81.9	0	A	EURO-SA	A12	
viba_535	NGR/2/73	bovine	81.7	0	A	AFRICA	G-V	
viba_688	EGY/1/72	bovine	81.4	0	A	AFRICA	G-II	
viba_594	IRN/1/2011	bovine	80.5	0	A	ASIA	Iran-05	FAR-11

Virus sample name:	PL/DUNG/1/NIG/2019
Sender reference:	PL/DUNG/1
Location of origin:	Plateau State
Country of origin:	Nigeria
Date of collection:	05/08/2019
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	625
Ambiguities:	10
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 45802, genome 45803, sequence viba_45804, sequencing info 45805	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45808	PL/DUNG/1/NIG/2019/iso	bovine	100.0	10	A	AFRICA	G-IV	
viba_45788	PL/BLD/02/NIG/2019	bovine	95.2	0	A	AFRICA	G-IV	
viba_45784	TA/SA/03/NIG/2019	bovine	94.7	0	A	AFRICA	G-IV	
viba_45812	BAU/TF/01/NIG/2019	bovine	90.9	10	A	AFRICA	G-IV	
viba_45816	BAU/TF/02/NIG/2019/iso	bovine	90.9	10	A	AFRICA	G-IV	
viba_40976	NIG/13/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40944	NIG/5/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40936	NIG/3/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40960	NIG/9/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40940	NIG/4/16a	cattle	90.5	0	A	AFRICA	G-IV	

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_178	SUD/3/77		82.4	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		80.4	0	A	AFRICA	G-I	
viba_173	UGA/13/66	bovine	79.6	0	A	AFRICA	G-VII	
viba_785	KEN/3/64		79.3	0	A	AFRICA	G-III	
viba_609	GHA/16/73	bovine	79.1	0	A	AFRICA	G-VI	
viba_435	Allier/FRA/60		78.1	0	A	EURO-SA	A5	
viba_699	UKG/119/32		78.0	0	A	EURO-SA	A12	
viba_688	EGY/1/72	bovine	77.8	0	A	AFRICA	G-II	
viba_535	NGR/2/73	bovine	77.2	0	A	AFRICA	G-V	
viba_98	Alem/ARG/81		76.9	0	A	EURO-SA	A81	

Virus sample name:	PL/DUNG/1/NIG/2019/iso
Sender reference:	PL/DUNG/1 (ISOLATE)
Location of origin:	Plateau State
Country of origin:	Nigeria
Date of collection:	05/08/2019
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	625
Ambiguities:	10
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 45806, genome 45807, sequence viba_45808, sequencing info 45809	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45804	PL/DUNG/1/NIG/2019	bovine	100.0	10	A	AFRICA	G-IV	
viba_45788	PL/BLD/02/NIG/2019	bovine	95.2	0	A	AFRICA	G-IV	
viba_45784	TA/SA/03/NIG/2019	bovine	94.7	0	A	AFRICA	G-IV	
viba_45812	BAU/TF/01/NIG/2019	bovine	90.9	10	A	AFRICA	G-IV	
viba_45816	BAU/TF/02/NIG/2019/iso	bovine	90.9	10	A	AFRICA	G-IV	
viba_40976	NIG/13/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40944	NIG/5/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40936	NIG/3/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40960	NIG/9/16a	cattle	90.5	0	A	AFRICA	G-IV	
viba_40940	NIG/4/16a	cattle	90.5	0	A	AFRICA	G-IV	

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_178	SUD/3/77		82.4	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		80.4	0	A	AFRICA	G-I	
viba_173	UGA/13/66	bovine	79.6	0	A	AFRICA	G-VII	
viba_785	KEN/3/64		79.3	0	A	AFRICA	G-III	
viba_609	GHA/16/73	bovine	79.1	0	A	AFRICA	G-VI	
viba_435	Allier/FRA/60		78.1	0	A	EURO-SA	A5	
viba_699	UKG/119/32		78.0	0	A	EURO-SA	A12	
viba_688	EGY/1/72	bovine	77.8	0	A	AFRICA	G-II	
viba_535	NGR/2/73	bovine	77.2	0	A	AFRICA	G-V	
viba_98	Alem/ARG/81		76.9	0	A	EURO-SA	A81	

Virus sample name:	BAU/TF/01/NIG/2019
Sender reference:	BAU/TF/01/19
Location of origin:	Bauchi State
Country of origin:	Nigeria
Date of collection:	23/10/2019
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	626
Ambiguities:	10
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 45810, genome 45811, sequence viba_45812, sequencing info 45813	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45816	BAU/TF/02/NIG/2019/iso	bovine	100.0	10	A	AFRICA	G-IV	
viba_19249	NIG/9/2012	bovine	95.8	0	A	AFRICA	G-IV	
viba_17182	NIG/2/2011	bovine	95.0	0	A	AFRICA	G-IV	
viba_20786	CAR/10/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_20794	CAR/36/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_20782	CAR/4/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_20790	CAR/11/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_11934	NIG/39/2009	cattle	91.9	0	A	AFRICA	G-IV	
viba_11926	NIG/36/2009	cattle	91.9	0	A	AFRICA	G-IV	
viba_11930	NIG/38/2009	cattle	91.7	0	A	AFRICA	G-IV	

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_178	SUD/3/77		83.3	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		80.7	0	A	AFRICA	G-I	
viba_785	KEN/3/64		79.8	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	79.8	0	A	AFRICA	G-II	
viba_173	UGA/13/66	bovine	79.6	0	A	AFRICA	G-VII	
viba_535	NGR/2/73	bovine	79.0	0	A	AFRICA	G-V	
viba_609	GHA/16/73	bovine	79.0	0	A	AFRICA	G-VI	
viba_589	Bangkok/TAI/60		78.7	0	A	ASIA	A15	
viba_699	UKG/119/32		77.5	0	A	EURO-SA	A12	
viba_435	Allier/FRA/60		77.0	0	A	EURO-SA	A5	

Virus sample name:	BAU/TF/02/NIG/2019/iso
Sender reference:	BAU/TF/02/19 (ISOLATE)
Location of origin:	Bauchi State
Country of origin:	Nigeria
Date of collection:	23/10/2019
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	
Sequence length:	626
Ambiguities:	10
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 45814, genome 45815, sequence viba_45816, sequencing info 45817	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45812	BAU/TF/01/NIG/2019	bovine	100.0	10	A	AFRICA	G-IV	
viba_19249	NIG/9/2012	bovine	95.8	0	A	AFRICA	G-IV	
viba_17182	NIG/2/2011	bovine	95.0	0	A	AFRICA	G-IV	
viba_20786	CAR/10/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_20794	CAR/36/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_20782	CAR/4/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_20790	CAR/11/2013	cattle	92.2	0	A	AFRICA	G-IV	
viba_11934	NIG/39/2009	cattle	91.9	0	A	AFRICA	G-IV	
viba_11926	NIG/36/2009	cattle	91.9	0	A	AFRICA	G-IV	
viba_11930	NIG/38/2009	cattle	91.7	0	A	AFRICA	G-IV	

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_178	SUD/3/77		83.3	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		80.7	0	A	AFRICA	G-I	
viba_785	KEN/3/64		79.8	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	79.8	0	A	AFRICA	G-II	
viba_173	UGA/13/66	bovine	79.6	0	A	AFRICA	G-VII	
viba_535	NGR/2/73	bovine	79.0	0	A	AFRICA	G-V	
viba_609	GHA/16/73	bovine	79.0	0	A	AFRICA	G-VI	
viba_589	Bangkok/TAI/60		78.7	0	A	ASIA	A15	
viba_699	UKG/119/32		77.5	0	A	EURO-SA	A12	
viba_435	Allier/FRA/60		77.0	0	A	EURO-SA	A5	

Virus sample name:	FMD/KD/02/NIG/2020
Sender reference:	FMD/KD/02/20
Location of origin:	Kaduna State
Country of origin:	Nigeria
Date of collection:	16/01/2020
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
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:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45818, genome 45819, sequence viba_45820, sequencing info 45821	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45824	FMD/KD/03/NIG/2020	bovine	99.8	0	A	AFRICA	G-IV	
viba_40976	NIG/13/16a	cattle	95.3	0	A	AFRICA	G-IV	
viba_40944	NIG/5/16a	cattle	95.3	0	A	AFRICA	G-IV	
viba_40936	NIG/3/16a	cattle	95.3	0	A	AFRICA	G-IV	
viba_40960	NIG/9/16a	cattle	95.3	0	A	AFRICA	G-IV	
viba_40940	NIG/4/16a	cattle	95.3	0	A	AFRICA	G-IV	
viba_40948	NIG/6/16a	cattle	95.1	0	A	AFRICA	G-IV	
viba_39605	CAR/LAN10/2014	cattle	93.4	0	A	AFRICA	G-IV	
viba_39597	CAR/LAN4/2014	cattle	93.4	0	A	AFRICA	G-IV	
viba_45924	NIG/08/2015	cattle	93.4	0	A	AFRICA	G-IV	

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_178	SUD/3/77		86.0	0	A	AFRICA	G-IV	
viba_173	UGA/13/66	bovine	84.1	0	A	AFRICA	G-VII	
viba_347	KEN/42/66		83.9	0	A	AFRICA	G-I	
viba_609	GHA/16/73	bovine	82.9	0	A	AFRICA	G-VI	
viba_785	KEN/3/64		82.3	0	A	AFRICA	G-III	
viba_699	UKG/119/32		82.0	0	A	EURO-SA	A12	
viba_435	Allier/FRA/60		81.9	0	A	EURO-SA	A5	
viba_688	EGY/1/72	bovine	81.3	0	A	AFRICA	G-II	
viba_589	Bangkok/TAI/60		80.9	0	A	ASIA	A15	
viba_98	Alem/ARG/81		80.5	0	A	EURO-SA	A81	

Virus sample name:	FMD/KD/03/NIG/2020
Sender reference:	FMD/KD/03/20
Location of origin:	Kaduna State
Country of origin:	Nigeria
Date of collection:	16/01/2020
Host species:	bovine
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
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:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45822, genome 45823, sequence viba_45824, sequencing info 45825	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45820	FMD/KD/02/NIG/2020	bovine	99.8	0	A	AFRICA	G-IV	
viba_40976	NIG/13/16a	cattle	95.1	0	A	AFRICA	G-IV	
viba_40944	NIG/5/16a	cattle	95.1	0	A	AFRICA	G-IV	
viba_40936	NIG/3/16a	cattle	95.1	0	A	AFRICA	G-IV	
viba_40960	NIG/9/16a	cattle	95.1	0	A	AFRICA	G-IV	
viba_40940	NIG/4/16a	cattle	95.1	0	A	AFRICA	G-IV	
viba_40948	NIG/6/16a	cattle	94.9	0	A	AFRICA	G-IV	
viba_39605	CAR/LAN10/2014	cattle	93.2	0	A	AFRICA	G-IV	
viba_39597	CAR/LAN4/2014	cattle	93.2	0	A	AFRICA	G-IV	
viba_45924	NIG/08/2015	cattle	93.2	0	A	AFRICA	G-IV	

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_178	SUD/3/77		86.1	0	A	AFRICA	G-IV	
viba_173	UGA/13/66	bovine	84.2	0	A	AFRICA	G-VII	
viba_347	KEN/42/66		84.1	0	A	AFRICA	G-I	
viba_609	GHA/16/73	bovine	82.8	0	A	AFRICA	G-VI	
viba_785	KEN/3/64		82.5	0	A	AFRICA	G-III	
viba_699	UKG/119/32		82.2	0	A	EURO-SA	A12	
viba_435	Allier/FRA/60		81.7	0	A	EURO-SA	A5	
viba_688	EGY/1/72	bovine	81.4	0	A	AFRICA	G-II	
viba_589	Bangkok/TAI/60		81.1	0	A	ASIA	A15	
viba_98	Alem/ARG/81		80.7	0	A	EURO-SA	A81	

Virus sample name:	PL/JS/01/NIG/2020
Sender reference:	PL/JS/01/20
Location of origin:	Plateau State
Country of origin:	Nigeria
Date of collection:	2020
Host species:	
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
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:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45826, genome 45827, sequence viba_45828, sequencing info 45829	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45832	PL/JS/03/NIG/2020		100.0	0	A	AFRICA	G-IV	
viba_19253	NIG/10/2012	bovine	99.8	0	A	AFRICA	G-IV	
viba_19245	NIG/8/2012	bovine	99.7	0	A	AFRICA	G-IV	
viba_11934	NIG/39/2009	cattle	96.1	0	A	AFRICA	G-IV	
viba_11926	NIG/36/2009	cattle	96.1	0	A	AFRICA	G-IV	
viba_11930	NIG/38/2009	cattle	95.9	0	A	AFRICA	G-IV	
viba_17182	NIG/2/2011	bovine	95.4	0	A	AFRICA	G-IV	
viba_31861	NIG/1/13a	bovine	95.3	0	A	AFRICA	G-IV	
viba_31865	NIG/2/13a	bovine	95.3	0	A	AFRICA	G-IV	
viba_19257	NIG/12/2012	bovine	95.3	0	A	AFRICA	G-IV	

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_178	SUD/3/77		87.5	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		84.5	0	A	AFRICA	G-I	
viba_173	UGA/13/66	bovine	84.4	0	A	AFRICA	G-VII	
viba_699	UKG/119/32		83.9	0	A	EURO-SA	A12	
viba_609	GHA/16/73	bovine	83.7	0	A	AFRICA	G-VI	
viba_785	KEN/3/64		83.6	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	83.3	0	A	AFRICA	G-II	
viba_535	NGR/2/73	bovine	82.3	0	A	AFRICA	G-V	
viba_435	Allier/FRA/60		81.9	0	A	EURO-SA	A5	
viba_589	Bangkok/TAI/60		81.9	0	A	ASIA	A15	

Virus sample name:	PL/JS/03/NIG/2020
Sender reference:	PL/JS/03/20
Location of origin:	Plateau State
Country of origin:	Nigeria
Date of collection:	2020
Host species:	
Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
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:	01/12/2020
Last updated:	01/12/2020
VIBASys IDs: sample 45830, genome 45831, sequence viba_45832, sequencing info 45833	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_45828	PL/JS/01/NIG/2020		100.0	0	A	AFRICA	G-IV	
viba_19253	NIG/10/2012	bovine	99.8	0	A	AFRICA	G-IV	
viba_19245	NIG/8/2012	bovine	99.7	0	A	AFRICA	G-IV	
viba_11934	NIG/39/2009	cattle	96.1	0	A	AFRICA	G-IV	
viba_11926	NIG/36/2009	cattle	96.1	0	A	AFRICA	G-IV	
viba_11930	NIG/38/2009	cattle	95.9	0	A	AFRICA	G-IV	
viba_17182	NIG/2/2011	bovine	95.4	0	A	AFRICA	G-IV	
viba_31861	NIG/1/13a	bovine	95.3	0	A	AFRICA	G-IV	
viba_31865	NIG/2/13a	bovine	95.3	0	A	AFRICA	G-IV	
viba_19257	NIG/12/2012	bovine	95.3	0	A	AFRICA	G-IV	

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_178	SUD/3/77		87.5	0	A	AFRICA	G-IV	
viba_347	KEN/42/66		84.5	0	A	AFRICA	G-I	
viba_173	UGA/13/66	bovine	84.4	0	A	AFRICA	G-VII	
viba_699	UKG/119/32		83.9	0	A	EURO-SA	A12	
viba_609	GHA/16/73	bovine	83.7	0	A	AFRICA	G-VI	
viba_785	KEN/3/64		83.6	0	A	AFRICA	G-III	
viba_688	EGY/1/72	bovine	83.3	0	A	AFRICA	G-II	
viba_535	NGR/2/73	bovine	82.3	0	A	AFRICA	G-V	
viba_435	Allier/FRA/60		81.9	0	A	EURO-SA	A5	
viba_589	Bangkok/TAI/60		81.9	0	A	ASIA	A15	

Report on FMDV A in Nigeria in 2019, 2020

Batch: WRLMEG/2020/00037



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor:	vp1_A
Query sequence set:	WRLMEG/2020/00037-Nigeria-A (10 sequences)
Sequence database set:	allseqs_A (2221 sequences)
Prototype sequence set:	!prototypes_A (40 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:	12
VIBASys version:	reflabs-1.1.2

Sequences in the Phylogenetic Tree

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

label	accession	host(s)	lab	country	taxonomic information
PL/JS/03/NIG/2020*	n/a	n/a	NCFAD/NVRI	Nigeria	AFRICA/G-IV
PL/JS/01/NIG/2020*	n/a	n/a	NCFAD/NVRI	Nigeria	AFRICA/G-IV
NIG/8/2012	KX258054	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/10/2012	KX258056	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/36/2009	KX258050	cattle	WRLFMD	Nigeria	AFRICA/G-IV
NIG/38/2009	KX258051	cattle	WRLFMD	Nigeria	AFRICA/G-IV
NIG/39/2009	KX258052	cattle	WRLFMD	Nigeria	AFRICA/G-IV
NIG/7/2013	KX258060	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/8/2013	KX258061	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/6/2013	KX258059	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/3/2013	KX258058	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/12/2012	KX258057	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/1/13a*	KY584070	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/2/13a*	KY584071	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
BAU/TF/02/NIG/2019/iso*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
BAU/TF/01/NIG/2019*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
NIG/9/2012	KX258055	bovine	WRLFMD	Nigeria	AFRICA/G-IV
NIG/2/2011	KX258053	bovine	WRLFMD	Nigeria	AFRICA/G-IV
CAR/C41J270P/2016*	MG873204	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/C41J180P/2015*	MG873203	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/D72J42P/2015*	MG873205	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/11/2013	n/a	cattle	WRLFMD	Cameroon	AFRICA/G-IV
CAR/36/2013	n/a	cattle	WRLFMD	Cameroon	AFRICA/G-IV
CAR/4/2013	n/a	cattle	WRLFMD	Cameroon	AFRICA/G-IV
CAR/10/2013	n/a	cattle	WRLFMD	Cameroon	AFRICA/G-IV
PL/DUNG/1/NIG/2019*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
PL/DUNG/1/NIG/2019/iso*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
PL/BLD/02/NIG/2019*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
TA/SA/03/NIG/2019*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
NIG/02/2017*	MT220002	cattle	Sciensano	Nigeria	AFRICA/G-IV
NIG/04/2017*	MT228048	cattle	Sciensano	Nigeria	AFRICA/G-IV
NIG/05/2017*	MT228049	cattle	Sciensano	Nigeria	AFRICA/G-IV
FMD/KD/03/NIG/2020*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
FMD/KD/02/NIG/2020*	n/a	bovine	NCFAD/NVRI	Nigeria	AFRICA/G-IV
NIG/9/16a*	MH894413	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/6/16a*	MH894410	cattle	PIADC	Nigeria	AFRICA/G-IV

continued on next page

label	accession	host(s)	lab	country	taxonomic information
NIG/13/16a*	MH894417	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/5/16a*	MH894409	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/3/16a*	MH894407	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/4/16a*	MH894408	cattle	PIADC	Nigeria	AFRICA/G-IV
CAR/LAN17/2014*	MH383076	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN10/2014*	MH383071	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/14/2014*	KY581683	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN15/2014*	MH383074	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN16/2014*	MH383075	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN4/2014*	MH383069	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN11/2014*	MH383072	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN9/2014*	MH383070	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/LAN12/2014*	MH383073	cattle	PIADC	Cameroon	AFRICA/G-IV
GHA/05/16*	MF893991	bovine	BVI	Ghana	AFRICA/G-IV
GHA/15/16*	MF893992	bovine	BVI	Ghana	AFRICA/G-IV
GHA/01/16*	MF893990	bovine	BVI	Ghana	AFRICA/G-IV
CAR/K009/2015*	MG873207	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/5928J270P/2016*	MG873201	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/4420J180P/2015*	MG873198	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/5921J90P/2015*	MG873199	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/K002/2015*	MG873206	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/5940K/2015*	MG873202	cattle	PIADC	Cameroon	AFRICA/G-IV
CAR/5923J180P/2015*	MG873200	cattle	PIADC	Cameroon	AFRICA/G-IV
TUN/6/17*	n/a	n/a	ANSES	Tunisia	AFRICA/G-IV
TUN/3/17*	n/a	n/a	ANSES	Tunisia	AFRICA/G-IV
TUN/1/17*	n/a	n/a	ANSES	Tunisia	AFRICA/G-IV
TUN/5/17*	n/a	n/a	ANSES	Tunisia	AFRICA/G-IV
TUN/7/17*	n/a	n/a	ANSES	Tunisia	AFRICA/G-IV
TUN/4/17*	n/a	n/a	ANSES	Tunisia	AFRICA/G-IV
NIG/08/2015*	MG712579	cattle	Sciensano	Nigeria	AFRICA/G-IV
NIG/02/15*	KY655492	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/09/2015*	MT211640	cattle	Sciensano	Nigeria	AFRICA/G-IV
NIG/01/15*	KY655491	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/2/15a*	MH894402	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/07/15*	KY655490	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/11/16a*	MH894415	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/12/16a*	MH894416	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/05/15*	KY655488	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/3/15a*	MH894403	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/8/16a*	MH894412	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/06/15*	KY655489	bovine	CODA-CERVA	Nigeria	AFRICA/G-IV
NIG/4/15a*	MH894404	cattle	PIADC	Nigeria	AFRICA/G-IV
NIG/1/15a*	MH894401	cattle	PIADC	Nigeria	AFRICA/G-IV
SUD/3/77	GU566064	n/a	WRLFMD	Sudan	AFRICA/G-IV
NGR/2/73	KF561704	bovine	WRLFMD	Niger	AFRICA/G-V
GHA/16/73	KF561698	bovine	WRLFMD	Ghana	AFRICA/G-VI
EGY/1/72	EF208756	bovine	WRLFMD	Egypt	AFRICA/G-II
KEN/3/64	AY593761	n/a	PIADC	Kenya	AFRICA/G-III
KEN/42/66	KF561699	n/a	WRLFMD	Kenya	AFRICA/G-I
UGA/13/66	KF561705	bovine	WRLFMD	Uganda	AFRICA/G-VII
Alem/ARG/81*	AJ306219	n/a	INTA-Argentina	Argentina	EURO-SA/A81
Cruzeiro/BRA/55*	AY593768	bovine	PIADC	Brazil	EURO-SA/A24
UKG/119/32	M10975	n/a	PIADC	United Kingdom	EURO-SA/A12
Allier/FRA/60*	AY593780	n/a	PIADC	France	EURO-SA/A5
IRQ/24/64	AY593763	bovine	PIADC	Iraq	ASIA/A22
Bangkok/TAI/60*	AY593755	n/a	PIADC	Thailand	ASIA/A15
IRN/1/2011	KY091292	bovine	WRLFMD	Iran	ASIA/Iran-05/FAR-11

*, not a WRLFMD Reference Number

n/a, not available