

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

## FMDV Genotyping Report

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**FMDV serotype:** A

**Country:** Ghana

**Year:** 2024

**Batch:** WRLMEG/2026/000001

**No. of sequences:** 1

**Reported date:** 28 January 2026

**WRLFMD Website:** <https://www.wrlfmd.org/>

**Email:** [reporting@pirbright.ac.uk](mailto:reporting@pirbright.ac.uk)

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FMDtype is supported through funding from

# Virus sample: Gha\_WEW-12/GHA/2024

## Sample details

Reception Date:	2026-01-16
Sender reference:	Gha_WEW-12
Location of origin:	NA
Country of origin:	Ghana
Date of collection:	2024-07-25
Host species:	cattle

## Genotyping details

Serotype:	A
Topotype:	AFRICA
Lineage:	G-IV
Sublineage:	None

## Sequencing details

Material submitted for sequencing:	NA
Material Harvest Date:	NA
Sequence length:	633
Ambiguities:	0

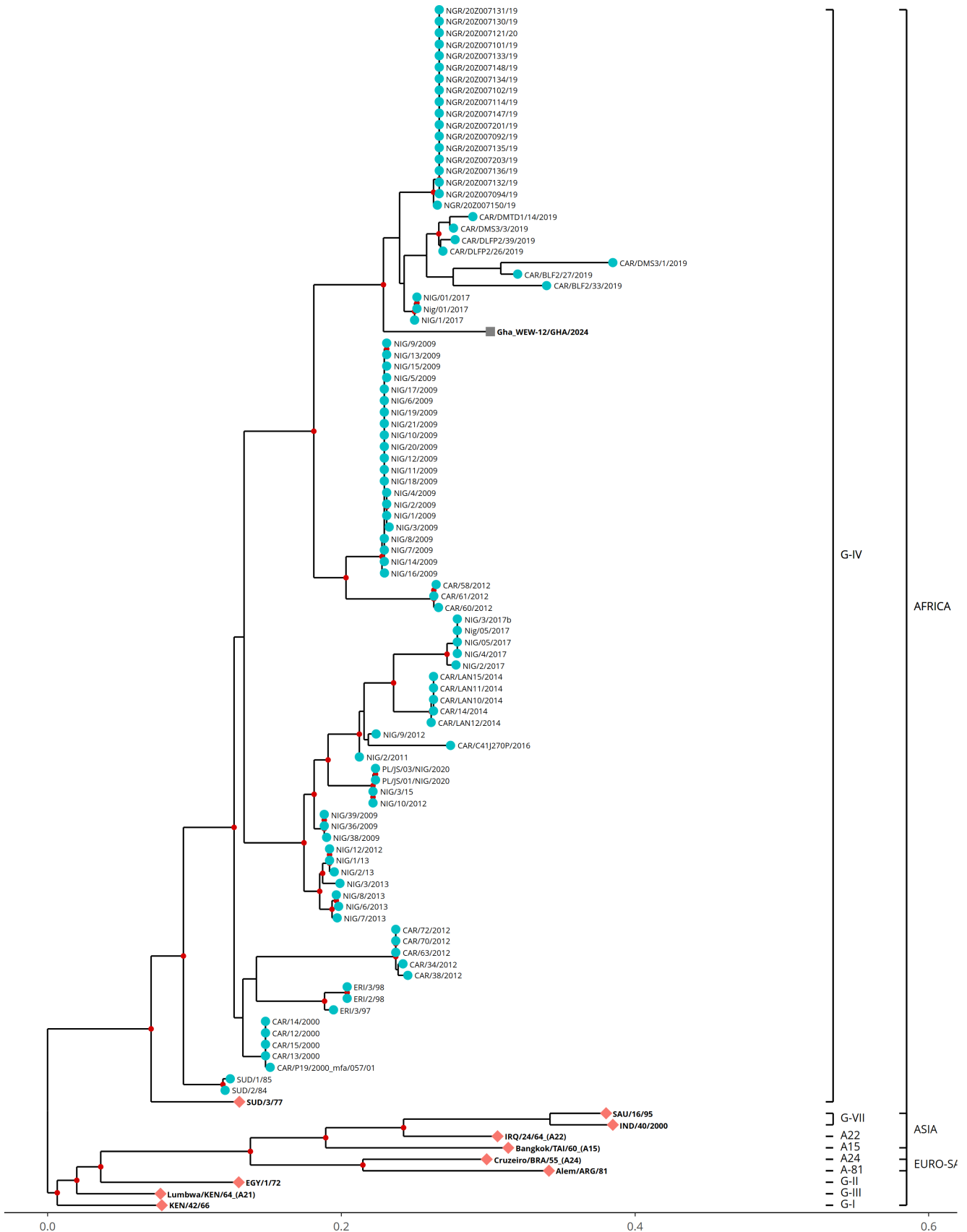
## Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
<b>FMDV VP1 Sequences</b>								
296555	NIG/1/2017	Cattle	92.22	0	A	AFRICA	G-IV	None
11684	Nig/01/2017	Bovine	92.06	0	A	AFRICA	G-IV	None
296560	NIG/01/2017	Cattle	92.06	0	A	AFRICA	G-IV	None
296547	NGR/20Z007150/19	Bovine	91.75	0	A	AFRICA	G-IV	None
296472	CAR/DLFP2/26/2019	Environmental	91.59	0	A	AFRICA	G-IV	None
296533	NGR/20Z007092/19	Bovine	91.59	0	A	AFRICA	G-IV	None
296534	NGR/20Z007094/19	Bovine	91.59	0	A	AFRICA	G-IV	None
296535	NGR/20Z007101/19	Bovine	91.59	0	A	AFRICA	G-IV	None
296536	NGR/20Z007102/19	Bovine	91.59	0	A	AFRICA	G-IV	None
296537	NGR/20Z007114/19	Bovine	91.59	0	A	AFRICA	G-IV	None
<b>FMDV VP1 Prototype Sequences*</b>								
14718	SUD/3/77		83.91	0	A	AFRICA	G-IV	None
4935	EGY/1/72	Bovine	81.97	0	A	AFRICA	G-II	None
7166	IND/40/2000	Cattle	79.25	0	A	ASIA	G-VII	None
13548	SAU/16/95		78.65	0	A	ASIA	G-VII	None
559	Alem/ARG/81		78.34	0	A	EURO-SA	A-81	None
9031	IRQ/24/64_(A22)		77.95	0	A	ASIA	A22	None
12789	PAK/6/2009	Water Buffalo	77.50	0	A	ASIA	Pak-09	None
3810	Cruzeiro/BRA/55_(A24)		77.25	0	A	EURO-SA	A24	None

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

# Tree

■ Uploaded sequence ● Database sequence ◆ Reference sequence



# Analysis Parameters

**Query sequence set:** WRLMEG/2026/000001  
**Number of related sequences reported:** 94  
**Number of prototype sequences in tree:** 10  
**Minimal VP1 subsequence match length:** 610  
**Sequence alignment length:** 638

**Number of sequences in tree capped at:** 100  
**Sequence alignment method:** MAFFT 7.522  
**Phylogeny reconstruction method:** IQ-TREE 2.26  
**Number of bootstrap samples:** 1000  
**Displaying bootstrap values above:** 75

## FMDV VP1 Sequences included in the Phylogenetic Tree

Sequence Name	GenBank Accession	Host	Ref Lab	Country	FMDV Taxonomy	Pubmed Reference Number
Nig/01/2017 *	MT211641	Bovine	SCIENSANO	Nigeria	A/AFRICA/G-IV	None
Nig/05/2017 *	MT228049	Bovine	SCIENSANO	Nigeria	A/AFRICA/G-IV	None
NIG/1/13 *	KY584070	Bovine	CODA-CERVA	Nigeria	A/AFRICA/G-IV	28097814
NIG/1/2009 *	JN680709	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/10/2009 *	JN680718	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/10/2012	KX258056	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/11/2009 *	JN680719	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/12/2009 *	JN680720	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/12/2012	KX258057	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/13/2009 *	JN680721	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/14/2009 *	JN680722	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/15/2009 *	JN680723	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/16/2009 *	JN680724	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/17/2009 *	JN680725	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/18/2009 *	JN680726	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/19/2009 *	JN680727	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/2/13 *	KY584071	Bovine	CODA-CERVA	Nigeria	A/AFRICA/G-IV	28097814
NIG/2/2009 *	JN680710	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/2/2011	KX258053	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/20/2009 *	JN680728	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/21/2009 *	JN680729	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/3/15 *	MG725874	Cattle	CODA-CERVA	Nigeria	A/AFRICA/G-IV	None
NIG/3/2009 *	JN680711	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/3/2013	KX258058	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/36/2009	KX258050	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/38/2009	KX258051	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/39/2009	KX258052	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/4/2009 *	JN680712	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/5/2009 *	JN680713	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/6/2009 *	JN680714	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/6/2013	KX258059	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/7/2009 *	JN680715	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/7/2013	KX258060	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/8/2009 *	JN680716	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/8/2013	KX258061	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
NIG/9/2009 *	JN680717	Cattle	PIADC	Nigeria	A/AFRICA/G-IV	23347819
NIG/9/2012	KX258055	Bovine	WRLFMD	Nigeria	A/AFRICA/G-IV	27718336
SUD/1/85	GU566068	Cattle	WRLFMD	Sudan	A/AFRICA/G-IV	20626708
SUD/2/84	GU566067	Cattle	WRLFMD	Sudan	A/AFRICA/G-IV	20626708
CAR/DMS3/1/2019	None	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/DMS3/3/2019	None	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/BLF2/33/2019	None	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/BLF2/27/2019	OR425058	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/DLFP2/26/2019	OR425060	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/DLFP2/39/2019	OR425061	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/DMTD1/14/2019	OR425064	Environmental	WRLFMD	Cameroon	A/AFRICA/G-IV	None
NGR/20Z007092/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007094/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007101/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007102/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007114/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007130/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007131/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007132/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007133/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007134/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007135/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007136/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007147/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007148/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007150/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007201/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None

## FMDV VP1 Sequences included in the Phylogenetic Tree (continued)

Sequence Name	GenBank Accession	Host	Ref Lab	Country	FMDV Taxonomy	Pubmed Reference Number
NGR/20Z007203/19 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NGR/20Z007121/20 *	None	Bovine	ANSES	Niger	A/AFRICA/G-IV	None
NIG/1/2017	PQ381853	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	None
NIG/2/2017	PQ381854	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	None
NIG/3/2017b	PQ381856	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	None
NIG/4/2017	PQ381857	Cattle	WRLFMD	Nigeria	A/AFRICA/G-IV	None
NIG/01/2017 *	MT211641	Cattle	SCIENSANO	Nigeria	A/AFRICA/G-IV	None
NIG/05/2017 *	MT228049	Cattle	SCIENSANO	Nigeria	A/AFRICA/G-IV	None
PL/JS/01/NIG/2020 *	None		NCFAD	Nigeria	A/AFRICA/G-IV	None
PL/JS/03/NIG/2020 *	None		NCFAD	Nigeria	A/AFRICA/G-IV	None
CAR/12/2000	KX258130	Cattle	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/13/2000	KX258131	Cattle	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/14/2000	KX258132		WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/14/2014 *	KY581683	Cattle	PIADC	Cameroon	A/AFRICA/G-IV	None
CAR/15/2000	EF208755	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/34/2012	KX266275	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/38/2012	KX266276	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/58/2012	KX266277	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/60/2012	KX266278	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/61/2012	KX266279	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/63/2012	KX266280	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/70/2012	KX266281	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/72/2012	KX266282	Bovine	WRLFMD	Cameroon	A/AFRICA/G-IV	None
CAR/C41J270P/2016 *	MG873204	Cattle	PIADC	Cameroon	A/AFRICA/G-IV	29786519
CAR/LAN10/2014 *	MH383071	Cattle	PIADC	Cameroon	A/AFRICA/G-IV	30619901
CAR/LAN11/2014 *	MH383072	Cattle	PIADC	Cameroon	A/AFRICA/G-IV	30619901
CAR/LAN12/2014 *	MH383073	Cattle	PIADC	Cameroon	A/AFRICA/G-IV	30619901
CAR/LAN15/2014 *	MH383074	Cattle	PIADC	Cameroon	A/AFRICA/G-IV	30619901
CAR/P19/2000_mfa/057/01	None	Cattle	WRLFMD	Cameroon	A/AFRICA/G-IV	None
ERI/2/98	KX258044	Bovine	WRLFMD	Eritrea	A/AFRICA/G-IV	27718336
ERI/3/97	KX258043	Cattle	WRLFMD	Eritrea	A/AFRICA/G-IV	27718336
ERI/3/98	KX258045	Bovine	WRLFMD	Eritrea	A/AFRICA/G-IV	27718336

\* Not a WRLFMD Reference Number;

† Not Available