

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

FMDV Genotyping Report

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Citation: WRLFMD. 2026. FMDV Genotyping Report [WRLMEG/2026/000004]. (Accessed 04/02/26)

FMDV serotype: SAT1

Country: Iran

Year: 2025

Batch: WRLMEG/2026/000004

No. of sequences: 5

Reported date: 04 February 2026

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

Email: reporting@pirbright.ac.uk

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FMDtype is supported through funding from



Virus sample: UT-Khorasani_A/1628/IRN/2025

Sample details

Reception Date:	2026-02-03
Sender reference:	UT-Khorasani_A/1628
Location of origin:	Khorasan
Country of origin:	Iran
Date of collection:	NA
Host species:	cattle

Genotyping details

Serotype:	SAT1
Topotype:	III
Lineage:	None
Sublineage:	None

Sequencing details

Material submitted for sequencing:	NA
Material Harvest Date:	NA
Sequence length:	657
Ambiguities:	0

Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
FMDV VP1 Sequences								
11357	NMB/1/2015	Bovine	98.94	0	SAT1	III	None	None
1243592	TUR/Igdir/1217/25	Cattle	98.94	0	SAT1	III	None	None
1243594	AZB/1/2025	Cattle	98.94	0	SAT1	III	None	None
1243595	AZB/2/2025	Cattle	98.94	0	SAT1	III	None	None
1373346	UT-Khorasani_Q/1630/IRN/2025	Cattle	98.94	0	SAT1	III	None	None
3453	BOT/17/77	Greater Kudu	98.78	0	SAT1	III	None	None
3478	BOT/24/77	Cattle	98.78	0	SAT1	III	None	None
1243593	UT-Khorasani_A/1627/IRN/2025	Cattle	98.78	0	SAT1	III	None	None
1373347	UT-Khorasani_T/1781/IRN/2025	Cattle	98.78	0	SAT1	III	None	None
1373348	UT-Khorasana_T/1731/IRN/2025	Cattle	98.78	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3416	BOT/1/77	Cattle	99.09	0	SAT1	III	None	None
3410	BOT/1/68	Cattle	90.85	0	SAT1	III	None	None
19096	ZIM/23/2003	African Buffalo	73.65	0	SAT1	I	None	None

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

Virus sample: UT-Khorasani_Q/1629/IRN/2025

Sample details

Reception Date:	2026-02-03
Sender reference:	UT-Khorasani_Q/1629
Location of origin:	Khorasan
Country of origin:	Iran
Date of collection:	NA
Host species:	cattle

Genotyping details

Serotype:	SAT1
Topotype:	III
Lineage:	None
Sublineage:	None

Sequencing details

Material submitted for sequencing:	NA
Material Harvest Date:	NA
Sequence length:	657
Ambiguities:	0

Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
FMDV VP1 Sequences								
1243594	AZB/1/2025	Cattle	99.54	0	SAT1	III	None	None
1243595	AZB/2/2025	Cattle	99.54	0	SAT1	III	None	None
1373347	UT-Khorasani_T/1781/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
1373348	UT-Khorasana_T/1731/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
11357	NMB/1/2015	Bovine	99.09	0	SAT1	III	None	None
1243592	TUR/Igdir/1217/25	Cattle	99.09	0	SAT1	III	None	None
1373346	UT-Khorasani_Q/1630/IRN/2025	Cattle	99.09	0	SAT1	III	None	None
3453	BOT/17/77	Greater Kudu	98.94	0	SAT1	III	None	None
3478	BOT/24/77	Cattle	98.94	0	SAT1	III	None	None
1373355	LEB/13/2025	Cattle	98.94	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3416	BOT/1/77	Cattle	99.24	0	SAT1	III	None	None
3410	BOT/1/68	Cattle	90.40	0	SAT1	III	None	None

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

Virus sample: UT-Khorasani_Q/1630/IRN/2025

Sample details

Reception Date:	2026-02-03
Sender reference:	UT-Khorasani_Q/1630
Location of origin:	Khorasan
Country of origin:	Iran
Date of collection:	NA
Host species:	cattle

Genotyping details

Serotype:	SAT1
Topotype:	III
Lineage:	None
Sublineage:	None

Sequencing details

Material submitted for sequencing:	NA
Material Harvest Date:	NA
Sequence length:	657
Ambiguities:	0

Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
FMDV VP1 Sequences								
1243592	TUR/Igdir/1217/25	Cattle	100.00	0	SAT1	III	None	None
11357	NMB/1/2015	Bovine	99.70	0	SAT1	III	None	None
3453	BOT/17/77	Greater Kudu	99.54	0	SAT1	III	None	None
3478	BOT/24/77	Cattle	99.54	0	SAT1	III	None	None
1243594	AZB/1/2025	Cattle	99.54	0	SAT1	III	None	None
1243595	AZB/2/2025	Cattle	99.54	0	SAT1	III	None	None
1373347	UT-Khorasani_T/1781/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
1373348	UT-Khorasana_T/1731/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
1243593	UT-Khorasani_A/1627/IRN/2025	Cattle	99.24	0	SAT1	III	None	None
1373345	UT-Khorasani_Q/1629/IRN/2025	Cattle	99.09	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3416	BOT/1/77	Cattle	99.85	0	SAT1	III	None	None
3410	BOT/1/68	Cattle	91.01	0	SAT1	III	None	None
19096	ZIM/23/2003	African Buffalo	74.10	0	SAT1	I	None	None

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

Virus sample: UT-Khorasani_T/1781/IRN/2025

Sample details

Reception Date:	2026-02-03
Sender reference:	UT-Khorasani_T/1781
Location of origin:	Khorasan
Country of origin:	Iran
Date of collection:	NA
Host species:	cattle

Genotyping details

Serotype:	SAT1
Topotype:	III
Lineage:	None
Sublineage:	None

Sequencing details

Material submitted for sequencing:	NA
Material Harvest Date:	NA
Sequence length:	657
Ambiguities:	0

Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
FMDV VP1 Sequences								
1243594	AZB/1/2025	Cattle	99.85	0	SAT1	III	None	None
1243595	AZB/2/2025	Cattle	99.85	0	SAT1	III	None	None
1373348	UT-Khorasana_T/1731/IRN/2025	Cattle	99.70	0	SAT1	III	None	None
11357	NMB/1/2015	Bovine	99.39	0	SAT1	III	None	None
1243592	TUR/Igdir/1217/25	Cattle	99.39	0	SAT1	III	None	None
1373345	UT-Khorasani_Q/1629/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
1373346	UT-Khorasani_Q/1630/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
3453	BOT/17/77	Greater Kudu	99.24	0	SAT1	III	None	None
3478	BOT/24/77	Cattle	99.24	0	SAT1	III	None	None
1373355	LEB/13/2025	Cattle	99.24	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3416	BOT/1/77	Cattle	99.54	0	SAT1	III	None	None
3410	BOT/1/68	Cattle	90.85	0	SAT1	III	None	None
19096	ZIM/23/2003	African Buffalo	74.10	0	SAT1	I	None	None

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

Virus sample: UT-Khorasani_T/1731/IRN/2025

Sample details

Reception Date:	2026-02-03
Sender reference:	UT-Khorasana_T/1731
Location of origin:	Khorasan
Country of origin:	Iran
Date of collection:	NA
Host species:	cattle

Genotyping details

Serotype:	SAT1
Topotype:	III
Lineage:	None
Sublineage:	None

Sequencing details

Material submitted for sequencing:	NA
Material Harvest Date:	NA
Sequence length:	657
Ambiguities:	0

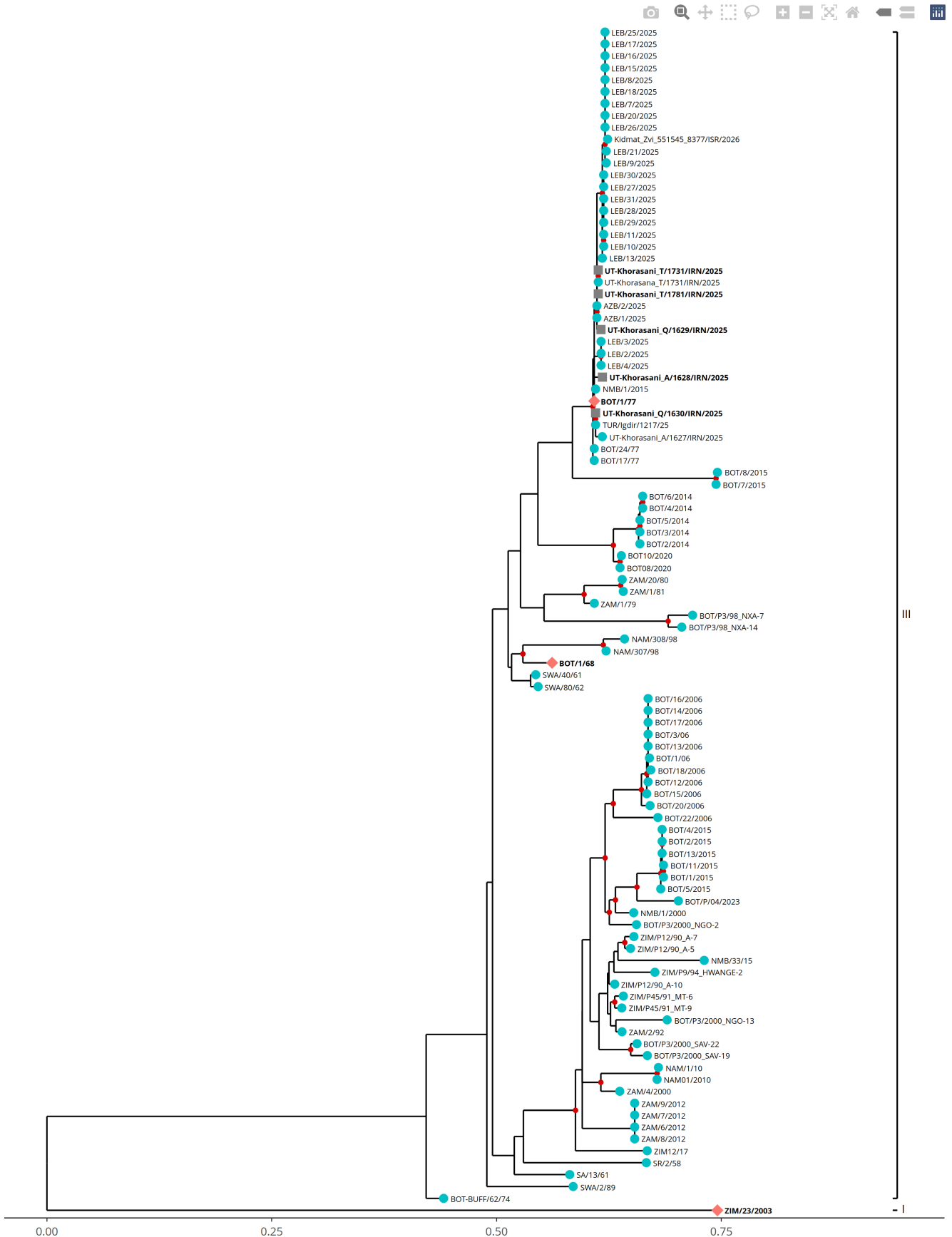
Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
FMDV VP1 Sequences								
1373348	UT-Khorasana_T/1731/IRN/2025	Cattle	100.00	0	SAT1	III	None	None
1243594	AZB/1/2025	Cattle	99.85	0	SAT1	III	None	None
1243595	AZB/2/2025	Cattle	99.85	0	SAT1	III	None	None
1373347	UT-Khorasani_T/1781/IRN/2025	Cattle	99.70	0	SAT1	III	None	None
11357	NMB/1/2015	Bovine	99.39	0	SAT1	III	None	None
1243592	TUR/Igdir/1217/25	Cattle	99.39	0	SAT1	III	None	None
1373345	UT-Khorasani_Q/1629/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
1373346	UT-Khorasani_Q/1630/IRN/2025	Cattle	99.39	0	SAT1	III	None	None
3453	BOT/17/77	Greater Kudu	99.24	0	SAT1	III	None	None
3478	BOT/24/77	Cattle	99.24	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3416	BOT/1/77	Cattle	99.54	0	SAT1	III	None	None
3410	BOT/1/68	Cattle	90.70	0	SAT1	III	None	None
19096	ZIM/23/2003	African Buffalo	74.25	0	SAT1	I	None	None

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

Tree

■ Uploaded sequence ● Database sequence ◆ Reference sequence



Analysis Parameters

Query sequence set: WRLMEG/2026/000004
Number of related sequences reported: 92
Number of prototype sequences in tree: 3
Minimal VP1 subsequence match length: 610
Sequence alignment length: 668

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
NAM/1/10 *	KJ999923	Cattle	OVI	Namibia	SAT1/III	None
NAM/307/98 *	AY770519	African Buffalo	OVI	Namibia	SAT1/III	17161881
NAM/308/98 *	KJ999922	African Buffalo	OVI	Namibia	SAT1/III	None
NAM01/2010 *	KU821590	Cattle	CODA-CERVA	Namibia	SAT1/III	27151795
NMB/1/2000	None	Bovine	WRLFMD	Namibia	SAT1/III	None
NMB/1/2015	None	Bovine	WRLFMD	Namibia	SAT1/III	None
NMB/33/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
TUR/Igdir/1217/25 *	None	Cattle	MAF-ANKARA	Turkiye	SAT1/III	None
UT-Khorasani_A/1627/IRN/2025 *	PX496948	Cattle	U-TEHRAN	Iran	SAT1/III	None
AZB/1/2025	None	Cattle	WRLFMD	Azerbaijan	SAT1/III	None
AZB/2/2025	None	Cattle	WRLFMD	Azerbaijan	SAT1/III	None
LEB/8/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/9/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/10/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
UT-Khorasana_T/1731/IRN/2025 *	PX556595	Cattle	U-TEHRAN	Iran	SAT1/III	None
Kidmat_Zvi_551545_8377/ISR/2026 *	None	Cattle	KVI	Israel	SAT1/III	None
LEB/2/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/3/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/4/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/7/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/11/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/13/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/15/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/16/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/17/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/18/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/20/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/21/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/25/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/26/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/27/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/28/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/29/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/30/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
LEB/31/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
SA/13/61 *	AY593842	Cattle	PIADC	South Africa	SAT1/III	15858032
SWA/2/89	MH053322	African Buffalo	WRLFMD	South West Africa	SAT1/III	29652800
SWA/40/61 *	AY593843		PIADC	South West Africa	SAT1/III	15858032
SWA/80/62	None		WRLFMD	South West Africa	SAT1/III	None
SR/2/58 *	AY593841	Cattle	PIADC	Southern Rhodesia	SAT1/III	15858032
ZAM/1/79	None		WRLFMD	Zambia	SAT1/III	None
ZAM/1/81	None	Cattle	WRLFMD	Zambia	SAT1/III	None
ZAM/20/80	None	Cattle	WRLFMD	Zambia	SAT1/III	None
ZAM/4/2000	None	Bovine	WRLFMD	Zambia	SAT1/III	None
ZAM/6/2012	None	Bovine	WRLFMD	Zambia	SAT1/III	None
ZAM/7/2012	None	Bovine	WRLFMD	Zambia	SAT1/III	None
ZAM/8/2012	None	Bovine	WRLFMD	Zambia	SAT1/III	None
ZAM/9/2012	None	Bovine	WRLFMD	Zambia	SAT1/III	None
ZIM/P12/90_A-10	MT385532	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P12/90_A-5	MT385530	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P12/90_A-7	MT385531	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P45/91_MT-6	MT385595	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P45/91_MT-9	MT385596	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P9/94_HWANGE-2	MT385604	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM12/17 *	None	Bovine	BVI	Zimbabwe	SAT1/III	None
ZAM/2/92	None	Bovine	WRLFMD	Zambia	SAT1/III	None
BOT/1/06 *	KJ999919	Cattle	OVI	Botswana	SAT1/III	None
BOT/1/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/11/2015 *	None	Cattle	BVI	Botswana	SAT1/III	None
BOT/12/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/13/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/13/2015 *	None	Cattle	BVI	Botswana	SAT1/III	None

FMDV VP1 Sequences included in the Phylogenetic Tree (continued)

Sequence Name	GenBank Accession	Host	Ref Lab	Country	FMDV Taxonomy	Pubmed Reference Number
BOT/14/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/15/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/16/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/17/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/17/77	KF219687	Greater Kudu	WRLFMD	Botswana	SAT1/III	None
BOT/18/2006	None	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/2/2014	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/2/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/20/2006	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/22/2006	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/24/77	KF219688	Cattle	WRLFMD	Botswana	SAT1/III	None
BOT/3/06 *	KJ999920	Cattle	OVI	Botswana	SAT1/III	None
BOT/3/2014	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/4/2014	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/4/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/5/2014 *	None	Cattle	BVI	Botswana	SAT1/III	None
BOT/5/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/6/2014 *	None	Cattle	BVI	Botswana	SAT1/III	None
BOT/7/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/8/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/P3/2000_NGO-13	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/2000_NGO-2	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/2000_SAV-19	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/2000_SAV-22	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/98_NXA-14	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/98_NXA-7	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT08/2020 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT10/2020 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT-BUFF/62/74	MH053319	African Buffalo	WRLFMD	Botswana	SAT1/III	29652800
BOT/P/04/2023 *	None	African Buffalo	BVI	Botswana	SAT1/III	None

* Not a WRLFMD Reference Number;

^ Not Available