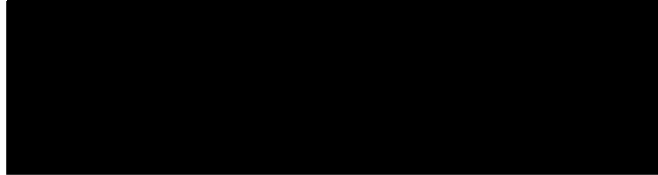




FMD Genotyping Reports

Lab Reference WRL batch Number: WRLMEG/2026/000006 & 16, 000015-15 & 18-20

Sent to:



Date Received: 11th April 2026

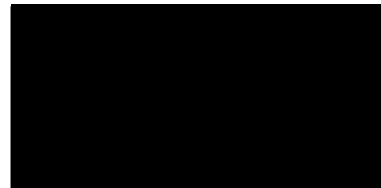
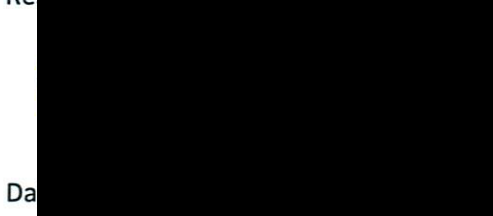
Country of Origin*: Botswana, Eswatini, Lesotho, Zambia, Zimbabwe

These reports have been prepared on behalf of the Botswana Veterinary Institute (BVI) from VP1 sequences kindly supplied from Botswana, Eswatini, Lesotho, Zambia and Zimbabwe.

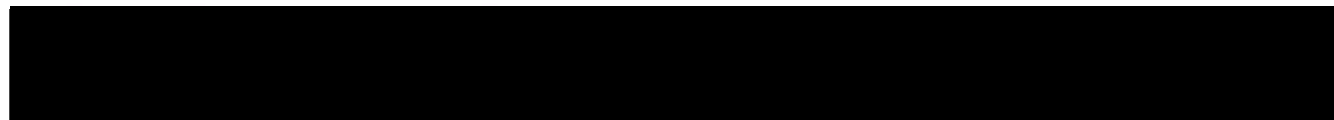
Please note that all our phylogenetic trees can be accessed via the internet at: <http://www.wrlfmd.org/>

Results Approved By:

Official Stamp:

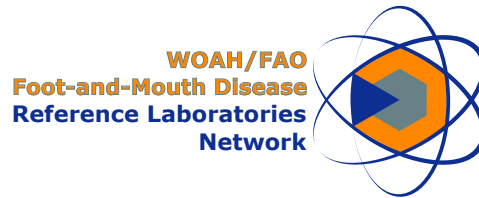


Da



To help us improve the quality of our service, please send any suggestions or requests to the Reference Laboratory by email (reflabsfeedback@pirbright.ac.uk).

* Data supplied by the customer



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

FMDV Genotyping Report

Generated from: **FMDtype** | FMDV Genotyping Tool

Downloaded on: 24 April 2026

Citation: WRLFMD. 2026. FMDV Genotyping Report [WRLMEG/2026/000020]. (Accessed 24/04/26)

FMDV serotype: SAT1

Country: Zambia

Year: 2026

Batch: WRLMEG/2026/000020

No. of sequences: 3

Reported date: 24 April 2026

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

Email: reporting@pirbright.ac.uk

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FMDtype is supported through funding from

Virus sample: ZAM02/2026

Sample details

Reception Date:	2026-04-12
Sender reference:	ZAM02/2026
Location of origin:	Shangombo District, Western Province
Country of origin:	Zambia
Date of collection:	2026-03-23
Host species:	bovine

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								
18878	ZAM/6/2012	Bovine	90.58	0	SAT1	III	None	None
18883	ZAM/7/2012	Bovine	90.58	0	SAT1	III	None	None
18891	ZAM/8/2012	Bovine	90.58	0	SAT1	III	None	None
18898	ZAM/9/2012	Bovine	90.58	0	SAT1	III	None	None
19215	ZIM/P12/90_A-5	African Buffalo	90.12	0	SAT1	III	None	None
19214	ZIM/P12/90_A-10	African Buffalo	89.67	0	SAT1	III	None	None
19216	ZIM/P12/90_A-7	African Buffalo	89.51	0	SAT1	III	None	None
19458	ZIM/P9/94_HWANGE-2	African Buffalo	89.21	0	SAT1	III	None	None
296334	ZAM/2/92	Bovine	89.21	0	SAT1	III	None	None
3569	BOT/P3/2000_NGO-2	African Buffalo	89.19	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3410	BOT/1/68	Cattle	86.15	0	SAT1	III	None	None
3416	BOT/1/77	Cattle	86.02	0	SAT1	III	None	None
11174	MOZ/P13/2010_MOR-16	African Buffalo	79.25	0	SAT1	XIII	None	None

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

Virus sample: ZAM03/2026

Sample details

Reception Date:	2026-04-12
Sender reference:	ZAM03/2026
Location of origin:	Shangombo District, Western Province
Country of origin:	Zambia
Date of collection:	2026-03-23
Host species:	bovine

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								
18878	ZAM/6/2012	Bovine	90.43	0	SAT1	III	None	None
18883	ZAM/7/2012	Bovine	90.43	0	SAT1	III	None	None
18891	ZAM/8/2012	Bovine	90.43	0	SAT1	III	None	None
18898	ZAM/9/2012	Bovine	90.43	0	SAT1	III	None	None
19215	ZIM/P12/90_A-5	African Buffalo	90.27	0	SAT1	III	None	None
19214	ZIM/P12/90_A-10	African Buffalo	89.82	0	SAT1	III	None	None
19216	ZIM/P12/90_A-7	African Buffalo	89.67	0	SAT1	III	None	None
19458	ZIM/P9/94_HWANGE-2	African Buffalo	89.36	0	SAT1	III	None	None
296334	ZAM/2/92	Bovine	89.36	0	SAT1	III	None	None
3569	BOT/P3/2000_NGO-2	African Buffalo	89.35	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3416	BOT/1/77	Cattle	86.17	0	SAT1	III	None	None
3410	BOT/1/68	Cattle	86.00	0	SAT1	III	None	None
11174	MOZ/P13/2010_MOR-16	African Buffalo	79.40	0	SAT1	XIII	None	None

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

Virus sample: ZAM04/2026

Sample details

Reception Date:	2026-04-12
Sender reference:	ZAM04/2026
Location of origin:	Shangombo District, Western Province
Country of origin:	Zambia
Date of collection:	2026-03-23
Host species:	bovine

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:	1

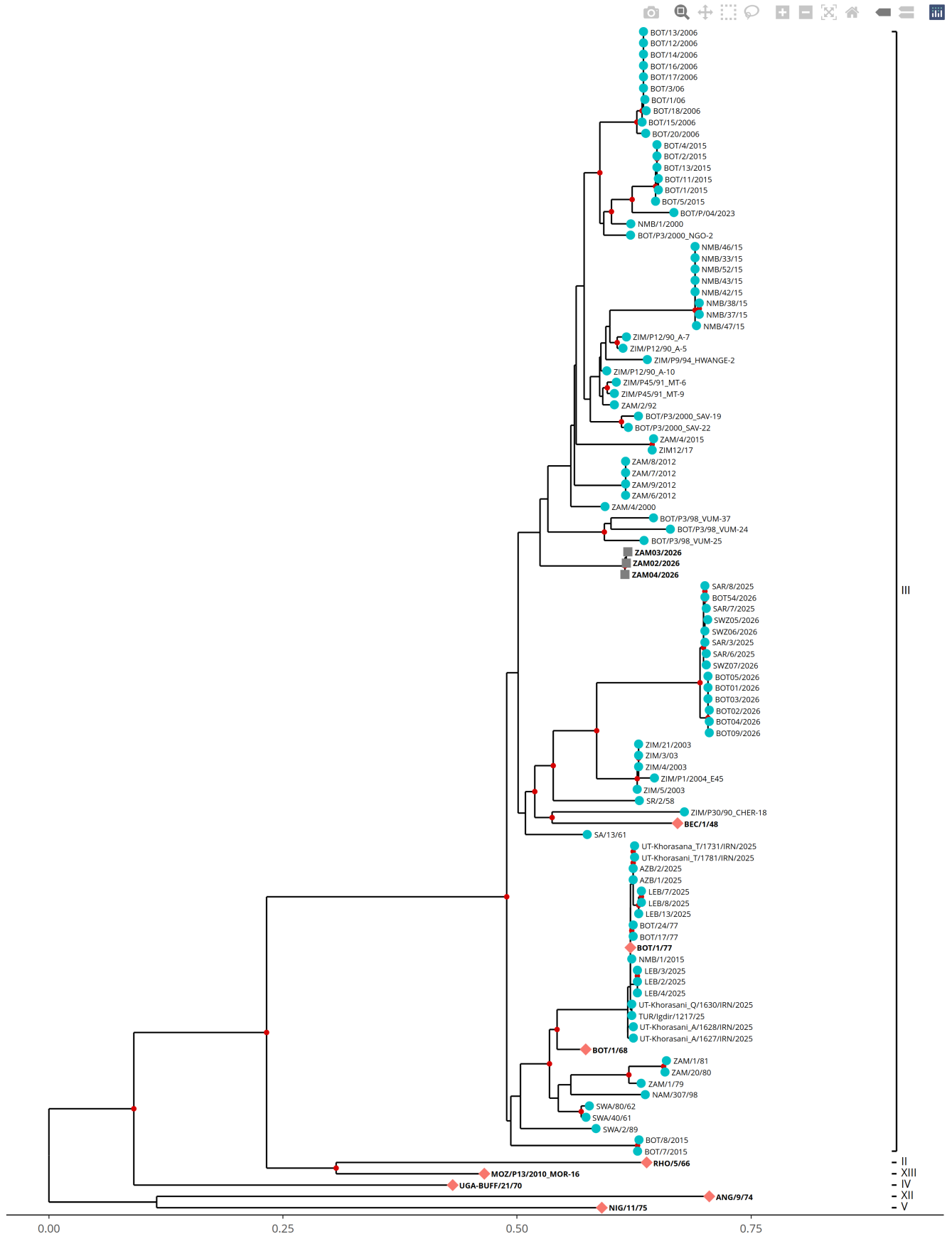
Most Closely Related FMDV Isolates

Sequence ID	Virus Name	Host	% Id	#Ambig.	Serotype	Topotype	Lineage	Sublineage
FMDV VP1 Sequences								
18878	ZAM/6/2012	Bovine	90.58	0	SAT1	III	None	None
18883	ZAM/7/2012	Bovine	90.58	0	SAT1	III	None	None
18891	ZAM/8/2012	Bovine	90.58	0	SAT1	III	None	None
18898	ZAM/9/2012	Bovine	90.58	0	SAT1	III	None	None
19215	ZIM/P12/90_A-5	African Buffalo	90.12	0	SAT1	III	None	None
19214	ZIM/P12/90_A-10	African Buffalo	89.67	0	SAT1	III	None	None
19216	ZIM/P12/90_A-7	African Buffalo	89.51	0	SAT1	III	None	None
19458	ZIM/P9/94_HWANGE-2	African Buffalo	89.21	0	SAT1	III	None	None
296334	ZAM/2/92	Bovine	89.21	0	SAT1	III	None	None
18859	ZAM/4/2000	Bovine	89.18	0	SAT1	III	None	None
FMDV VP1 Prototype Sequences*								
3410	BOT/1/68	Cattle	86.15	0	SAT1	III	None	None
3416	BOT/1/77	Cattle	86.02	0	SAT1	III	None	None
11174	MOZ/P13/2010_MOR-16	African Buffalo	79.25	0	SAT1	XIII	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/2026/000020
Number of related sequences reported: 94
Number of prototype sequences in tree: 8
Minimal VP1 subsequence match length: 610
Sequence alignment length: 665

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/307/98 *	AY770519	African Buffalo	OVI	Namibia	SAT1/III	17161881
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
NMB/37/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
NMB/38/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
NMB/42/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
NMB/43/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
NMB/46/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
NMB/47/15 *	None	Cattle	BVI	Namibia	SAT1/III	None
NMB/52/15 *	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
UT-Khorasani_A/1628/IRN/2025 *	PX556591	Cattle	U-TEHRAN	Iran	SAT1/III	None
UT-Khorasani_Q/1630/IRN/2025 *	PX556593	Cattle	U-TEHRAN	Iran	SAT1/III	None
UT-Khorasani_T/1781/IRN/2025 *	PX556594	Cattle	U-TEHRAN	Iran	SAT1/III	None
UT-Khorasana_T/1731/IRN/2025 *	PX556595	Cattle	U-TEHRAN	Iran	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/13/2025	None	Cattle	WRLFMD	Lebanon	SAT1/III	None
BOT01/2026 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT02/2026 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT03/2026 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT04/2026 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT05/2026 *	None	Bovine	BVI	Botswana	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
BOT09/2026 *	None	Bovine	BVI	Botswana	SAT1/III	None
BOT54/2026 *	None	Bovine	BVI	Botswana	SAT1/III	None
SWZ05/2026 *	None	Bovine	BVI	Eswatini	SAT1/III	None
SWZ06/2026 *	None	Bovine	BVI	Eswatini	SAT1/III	None
SWZ07/2026 *	None	Bovine	BVI	Eswatini	SAT1/III	None
SAR/3/2025	None	Cattle	WRLFMD	South Africa	SAT1/III	None
SAR/6/2025	None	Pig	WRLFMD	South Africa	SAT1/III	None
SAR/7/2025	None	Cattle	WRLFMD	South Africa	SAT1/III	None
SAR/8/2025	None	Cattle	WRLFMD	South Africa	SAT1/III	None
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/21/2003	None	Cattle	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/3/03 *	KJ999926	Cattle	OVI	Zimbabwe	SAT1/III	None
ZIM/4/2003	None		WRLFMD	Zimbabwe	SAT1/III	None
ZIM/5/2003	None		WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P1/2004_E45	None	Cattle	WRLFMD	Zimbabwe	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/P30/90_CHER-18	MT385557	African Buffalo	WRLFMD	Zimbabwe	SAT1/III	None
ZIM/P45/91_MT-6	MT385595	African Buffalo	WRLFMD	Zimbabwe	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
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/4/2015	None	Cattle	WRLFMD	Zambia	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
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/2/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/20/2006	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/4/2015	None	Bovine	WRLFMD	Botswana	SAT1/III	None
BOT/5/2015	None	Bovine	WRLFMD	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-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_VUM-24	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/98_VUM-25	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P3/98_VUM-37	None	African Buffalo	WRLFMD	Botswana	SAT1/III	None
BOT/P/04/2023 *	None	African Buffalo	BVI	Botswana	SAT1/III	None

* Not a WRLFMD Reference Number;

^ Not Available