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FMD Genotyping Report

Lab Reference WRL Batch Number: WRLFMD/2011/00050

Sender Details:



Date Received: 15th December 2011

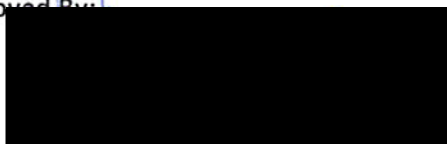
Country of Origin: Ethiopia

Date Reported: 5th January 2012

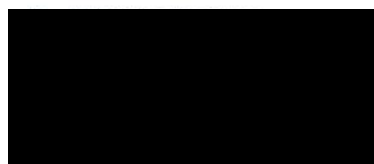
Dear Tesfaye Rufael

Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at: <http://www.wrlfmd.org/>

Results Approved By:



Official Stamp:



Date:

5/1/12

A UKAS accredited testing laboratory No. 4025.

To help us improve the quality of our service, please send any suggestions or requests to the Reference Laboratory by fax (+44 (0) 1483 232621 or email: gareth.shimmon@iah.ac.uk. IAH actively seeks and appreciates feedback, if you would like to offer feedback please complete the WRLFMD survey here: <http://www.surveymonkey.com/s/WRLFMD>

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

Genotyping Report

Report Date for this Batch: 4 January 2012

FMDV type O

Country: Ethiopia

Period: 2011

No. of samples: 4

BATCH: WRLFMD/2011/00050



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 04/01/2012
WRLFMD Ref No: ETH/13/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00050	Checked by: D.P. King
Sender Ref: ET 27/2011	
Location: Adama, East Shewa, Oromia, Ethiopia	Topotype: EA-3
Date collected: 31/10/2011	Genotype/strain: unnamed
Date received by WRLFMD: 15/12/2011	Sequence filename: ETH11-13.SEQ
Date received for sequencing: 22/12/2011	Date sequence last updated: 04/01/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3200
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 20 days
	Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ETH/18/2011	ETH11-18	639	636	0	99.53	0.47	EA-3	unnamed
2	O/ETH/11/2011	ETH11-11	639	634	0	99.22	0.78	EA-3	unnamed
3	O/ETH/3/2011	ETH11-03	639	633	0	99.06	0.94	EA-3	unnamed
4	O/ETH/4/2011	ETH11-04	639	633	0	99.06	0.94	EA-3	unnamed
5	O/ETH/5/2011	ETH11-05	639	633	0	99.06	0.94	EA-3	unnamed
6	O/ETH/9/2011	ETH11-09	639	632	0	98.90	1.10	EA-3	unnamed
7	O/ETH/10/2011	ETH11-10	639	631	0	98.75	1.25	EA-3	unnamed
8	O/ETH/12/2011	ETH11-12	639	631	0	98.75	1.25	EA-3	unnamed
9	O/ETH/45/2009	ETH09-45	639	631	0	98.75	1.25	EA-3	unnamed
10	O/ETH/7/2010	ETH10-07	639	628	0	98.28	1.72	EA-3	unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ETH/1/2007 (FJ798137)	ETH07-01	639	598	0	93.58	6.42	EA-3	unnamed
2	O/ETH/3/2004 (FJ798109)	ETH04-03	639	592	0	92.64	7.36	EA-3	unnamed
3	O/SUD/2/86 (DQ165075)	SUD86-02	639	563	0	88.11	11.89	EA-3	unnamed
4	O/K83/79* (AJ303511)	KEN79B83	638	550	1	86.21	13.79	EA-1	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	550	0	86.07	13.93	ME-SA	unnamed
6	O/UGA/5/96 (AJ296327)	UGA96-05	639	548	0	85.76	14.24	EA-1	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	639	547	0	85.60	14.40	ME-SA	unnamed
8	O/K40/84*	KEN84-40	639	547	0	85.60	14.40	EA-1	unnamed
9	O/BHU/3/2009	BHU09-03	639	544	0	85.13	14.87	ME-SA	Ind-2001d
10	O/ETH/2/2006 (FJ798127)	ETH06-02	639	543	0	84.98	15.02	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 04/01/2012
WRLFMD Ref No: ETH/18/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00050	Checked by: D.P. King
Sender Ref: ET 16/2011	
Location: Sire, Guna, Arsi, Oromia, Ethiopia	Topotype: EA-3
Date collected: 31/10/2011	Genotype/strain: unnamed
Date received by WRLFMD: 15/12/2011	Sequence filename: ETH11-18.SEQ
Date received for sequencing: 22/12/2011	Date sequence last updated: 04/01/2012
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3200
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 20 days
	Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ETH/13/2011	ETH11-13	639	636	0	99.53	0.47	EA-3	unnamed
2	O/ETH/11/2011	ETH11-11	639	633	0	99.06	0.94	EA-3	unnamed
3	O/ETH/3/2011	ETH11-03	639	632	0	98.90	1.10	EA-3	unnamed
4	O/ETH/4/2011	ETH11-04	639	632	0	98.90	1.10	EA-3	unnamed
5	O/ETH/5/2011	ETH11-05	639	632	0	98.90	1.10	EA-3	unnamed
6	O/ETH/9/2011	ETH11-09	639	631	0	98.75	1.25	EA-3	unnamed
7	O/ETH/10/2011	ETH11-10	639	630	0	98.59	1.41	EA-3	unnamed
8	O/ETH/12/2011	ETH11-12	639	630	0	98.59	1.41	EA-3	unnamed
9	O/ETH/45/2009	ETH09-45	639	630	0	98.59	1.41	EA-3	unnamed
10	O/ETH/7/2010	ETH10-07	639	627	0	98.12	1.88	EA-3	unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ETH/1/2007 (FJ798137)	ETH07-01	639	595	0	93.11	6.89	EA-3	unnamed
2	O/ETH/3/2004 (FJ798109)	ETH04-03	639	590	0	92.33	7.67	EA-3	unnamed
3	O/SUD/2/86 (DQ165075)	SUD86-02	639	560	0	87.64	12.36	EA-3	unnamed
4	O/K83/79* (AJ303511)	KEN79B83	638	548	1	85.89	14.11	EA-1	unnamed
5	O/IND/R2/75* (AF204276)	IND75--A	639	548	0	85.76	14.24	ME-SA	unnamed
6	O/UGA/5/96 (AJ296327)	UGA96-05	639	547	0	85.60	14.40	EA-1	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	639	545	0	85.29	14.71	ME-SA	unnamed
8	O/K40/84*	KEN84-40	639	544	0	85.13	14.87	EA-1	unnamed
9	O/ETH/2/2006 (FJ798127)	ETH06-02	639	543	0	84.98	15.02	EA-3	unnamed
10	O/BHU/3/2009	BHU09-03	639	542	0	84.82	15.18	ME-SA	Ind-2001d

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: ETH/26/2011 Batch No: WRLFMD/2011/00050 Sender Ref: ET 24/2011 Location: Shire, Samite Seharti, East, South, West and Central Zones, Tigray, Ethiopia Date collected: 10/11/2011 Date received by WRLFMD: 15/12/2011 Date received for sequencing: 03/01/2012 Species: Cattle Material used: BTy2 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 04/01/2012 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EA-3 Genotype/strain: unnamed Sequence filename: ETH11-26.SEQ Date sequence last updated: 04/01/2012 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 3200 Min. no. of nt for comparison: 600 Total turn-around time: 20 days Sequencing time: 1 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ETH/28/2011	ETH11-28	639	637	0	99.69	0.31	EA-3	unnamed
2	O/SUD/5/2008 (GU566061)	SUD08-05	639	608	0	95.15	4.85	EA-3	unnamed
3	O/SUD/6/2008 (GU566062)	SUD08-06	639	607	0	94.99	5.01	EA-3	unnamed
4	O/SUD/3/2008 (GU566059)	SUD08-03	639	600	0	93.90	6.10	EA-3	unnamed
5	O/SUD/4/2008 (GU566060)	SUD08-04	639	600	0	93.90	6.10	EA-3	unnamed
6	O/SUD/1/99 (DQ165076)	SUD99-01	639	594	0	92.96	7.04	EA-3	unnamed
7	O/SUD/3/99 (GU566043)	SUD99-03	639	594	0	92.96	7.04	EA-3	unnamed
8	O/SUD/4/99 (GU566044)	SUD99-04	639	594	0	92.96	7.04	EA-3	unnamed
9	O/SUD/14/2004 (GU566050)	SUD04-14	639	593	0	92.80	7.20	EA-3	unnamed
10	O/SUD/15/2004 (GU566051)	SUD04-15	639	593	0	92.80	7.20	EA-3	unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/SUD/2/86 (DQ165075)	SUD86-02	639	588	0	92.02	7.98	EA-3	unnamed
2	O/ETH/1/2007 (FJ798137)	ETH07-01	639	557	0	87.17	12.83	EA-3	unnamed
3	O/IND/53/79 (AF292107)	IND79A53	639	551	0	86.23	13.77	ME-SA	unnamed
4	O/MAL/1/98 (DQ165074)	MAL98-01	639	550	0	86.07	13.93	EA-2	unnamed
5	O/ETH/3/2004 (FJ798109)	ETH04-03	639	549	0	85.92	14.08	EA-3	unnamed
6	O/TAN/2/2004	TAN04-02	639	548	0	85.76	14.24	EA-2	unnamed
7	O/UGA/3/2002 (DQ165077)	UGA02-03	639	548	0	85.76	14.24	EA-2	unnamed
8	O/K83/79* (AJ303511)	KEN79B83	638	547	1	85.74	14.26	EA-1	unnamed
9	O/BHU/3/2009	BHU09-03	639	546	0	85.45	14.55	ME-SA	Ind-2001d
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	545	1	85.42	14.58	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: ETH/28/2011 Batch No: WRLFMD/2011/00050 Sender Ref: ET 26/2011 Location: Shire, Samite Seharti, East, South, West and Central Zones, Tigray, Ethiopia Date collected: 15/11/2011 Date received by WRLFMD: 15/12/2011 Date received for sequencing: 22/12/2011 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 04/01/2012 Reported by: N.J. Knowles Checked by: D.P. King Topotype: EA-3 Genotype/strain: unnamed Sequence filename: ETH11-28.SEQ Date sequence last updated: 04/01/2012 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 3200 Min. no. of nt for comparison: 600 Total turn-around time: 20 days Sequencing time: 13 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/ETH/26/2011	ETH11-26	639	637	0	99.69	0.31	EA-3	unnamed
2	O/SUD/5/2008 (GU566061)	SUD08-05	639	609	0	95.31	4.69	EA-3	unnamed
3	O/SUD/6/2008 (GU566062)	SUD08-06	639	608	0	95.15	4.85	EA-3	unnamed
4	O/SUD/3/2008 (GU566059)	SUD08-03	639	601	0	94.05	5.95	EA-3	unnamed
5	O/SUD/4/2008 (GU566060)	SUD08-04	639	601	0	94.05	5.95	EA-3	unnamed
6	O/SUD/1/99 (DQ165076)	SUD99-01	639	595	0	93.11	6.89	EA-3	unnamed
7	O/SUD/3/99 (GU566043)	SUD99-03	639	595	0	93.11	6.89	EA-3	unnamed
8	O/SUD/4/99 (GU566044)	SUD99-04	639	595	0	93.11	6.89	EA-3	unnamed
9	O/SUD/14/2004 (GU566050)	SUD04-14	639	594	0	92.96	7.04	EA-3	unnamed
10	O/SUD/15/2004 (GU566051)	SUD04-15	639	594	0	92.96	7.04	EA-3	unnamed
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/SUD/2/86 (DQ165075)	SUD86-02	639	589	0	92.18	7.82	EA-3	unnamed
2	O/ETH/1/2007 (FJ798137)	ETH07-01	639	558	0	87.32	12.68	EA-3	unnamed
3	O/IND/53/79 (AF292107)	IND79A53	639	553	0	86.54	13.46	ME-SA	unnamed
4	O/MAL/1/98 (DQ165074)	MAL98-01	639	552	0	86.38	13.62	EA-2	unnamed
5	O/ETH/3/2004 (FJ798109)	ETH04-03	639	550	0	86.07	13.93	EA-3	unnamed
6	O/TAN/2/2004	TAN04-02	639	549	0	85.92	14.08	EA-2	unnamed
7	O/UGA/3/2002 (DQ165077)	UGA02-03	639	549	0	85.92	14.08	EA-2	unnamed
8	O/K83/79* (AJ303511)	KEN79B83	638	548	1	85.89	14.11	EA-1	unnamed
9	O/BHU/3/2009	BHU09-03	639	548	0	85.76	14.24	ME-SA	Ind-2001d
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	547	1	85.74	14.26	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV O in Ethiopia in 2011

Batch: WRLFMD/2011/00050

◆ indicates viruses in this batch

Software: MEGA 5.0

Analysis

Analysis ----- Phylogeny Reconstruction

Scope ----- All Selected Taxa

Statistical Method ----- Neighbor-joining

Phylogeny Test

Test of Phylogeny ----- Bootstrap method

No. of Bootstrap Replications ----- 1000

Substitution Model

Substitutions Type ----- Nucleotide

Model/Method ----- Kimura 2-parameter model

Substitutions to Include ----- d: Transitions + Transversions

Rates and Patterns

Rates among Sites ----- Uniform rates

Pattern among Lineages ----- Same (Homogeneous)

Data Subset to Use

Gaps/Missing Data Treatment ----- Pairwise deletion

Codons Included ----- 1st+2nd+3rd+Non-Coding

No. of Sites : 642

No Of Bootstrap Reps = 1000

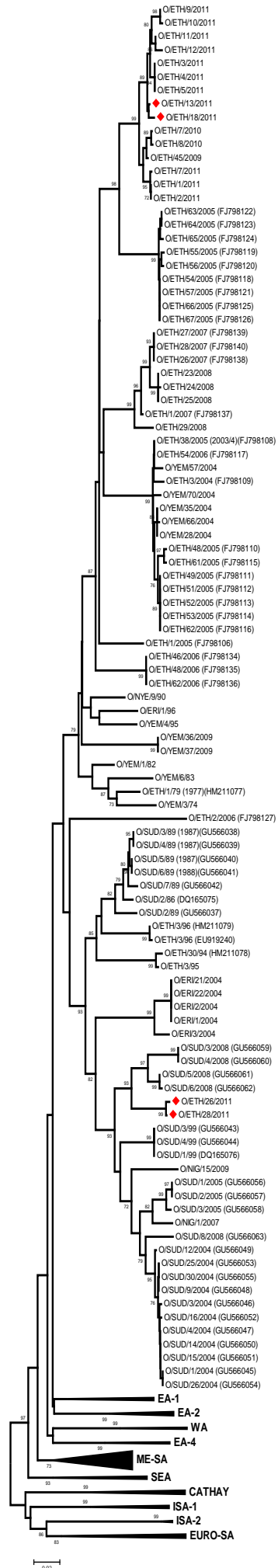
Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 04 January 2012

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