

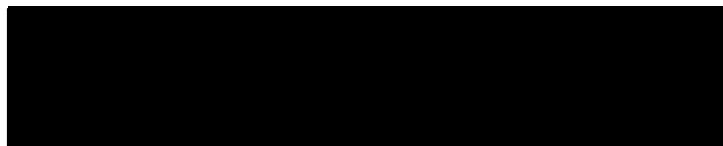


INSTITUTE FOR ANIMAL HEALTH
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FMD Genotyping Report

Lab Reference WRL Batch Number: WRLFMD/2012/00009

Sender Details:



Date Received: 16th February 2012

Country of Origin: AFGHANISTAN

Date Reported: 17th April 2012

Dear Dr Khan,

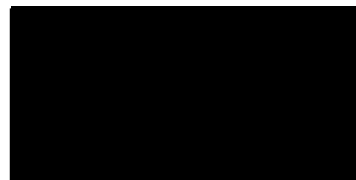
Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at:

<http://www.wrlfmd.org/>

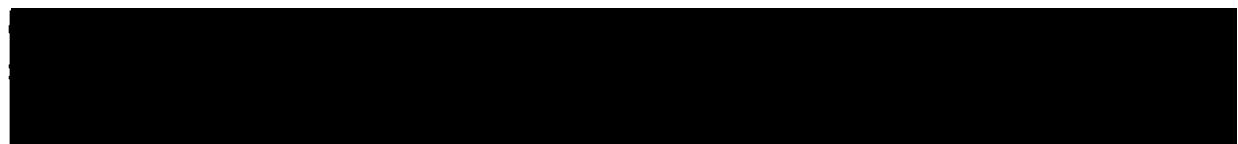
Results Approved By:



Official Stamp:



Date: 17/4/12



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: 16 April 2012

FMDV type O

Country: Afghanistan

Period: 2011

No. of samples: 3

BATCH: WRLFMD/2012/00009



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O WRLFMD Ref No: AFG/61/2011 Batch No: WRLFMD/2012/00009 Sender Ref: 801 Location: Nahr Shahid, Talqan, Takhar, Afghanistan Date collected: 07/04/2011 Date received by WRLFMD: 16/02/2012 Date received for sequencing: 05/03/2012 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 16/04/2012 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: ME-SA Genotype/strain: PanAsia-2 ^{ANT-10} Sequence filename: AFG11-61.SEQ Date sequence last updated: 08/03/2012 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 3243 Min. no. of nt for comparison: 600 Total turn-around time: 60 days Sequencing time: 42 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/AFG/64/2011	AFG11-64	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
2	O/AFG/67/2011	AFG11-67	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/116/2010	PAK10116	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
4	O/AFG/19/2011	AFG11-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/256/2010	AFG10256	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/259/2010	AFG10259	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/35/2011	AFG11-35	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/10/2011	IRN11-10	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/35/2011	IRN11-35	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/103/2010	PAK10103	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	597	0	93.43	6.57	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	567	0	88.73	11.27	ME-SA	Ind-2001a

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: AFG/64/2011 Batch No: WRLFMD/2012/00009 Sender Ref: 788 Location: Blakortabz, Talqan, Takhar, Afghanistan Date collected: 17/04/2011 Date received by WRLFMD: 16/02/2012 Date received for sequencing: 05/03/2012 Species: Cattle Material used: OS Region sequenced: VP1 RT-PCR primers: O-1C272F/EUR-2B52R	Report date: 16/04/2012 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: ME-SA Genotype/strain: PanAsia-2 ^{ANT-10} Sequence filename: AFG11-64.SEQ Date sequence last updated: 07/03/2012 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 3243 Min. no. of nt for comparison: 600 Total turn-around time: 60 days Sequencing time: 42 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/AFG/67/2011	AFG11-67	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/AFG/61/2011	AFG11-61	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/19/2011	AFG11-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
4	O/AFG/256/2010	AFG10256	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/259/2010	AFG10259	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/35/2011	AFG11-35	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/10/2011	IRN11-10	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/35/2011	IRN11-35	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/103/2010	PAK10103	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/104/2010	PAK10104	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	597	0	93.43	6.57	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 16/04/2012
WRLFMD Ref No: AFG/67/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2012/00009	Checked by: V. Mioulet
Sender Ref: 795	
Location: Qzaq, Talqan, Takhar, Afghanistan	Topotype: ME-SA
Date collected: 29/05/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 16/02/2012	Sequence filename: AFG11-67.SEQ
Date received for sequencing: 05/03/2012	Date sequence last updated: 08/03/2012
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: 3243
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 60 days
	Sequencing time: 42 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/AFG/64/2011	AFG11-64	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/AFG/61/2011	AFG11-61	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/19/2011	AFG11-19	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
4	O/AFG/256/2010	AFG10256	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/259/2010	AFG10259	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/35/2011	AFG11-35	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/10/2011	IRN11-10	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/35/2011	IRN11-35	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/103/2010	PAK10103	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/104/2010	PAK10104	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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2	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	597	0	93.43	6.57	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV O in Afghanistan in 2011

Batch: WRLFMD/2012/00009

◆ indicates viruses in this batch

Software: MEGA 5.0

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, 16 April 2012

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