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FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2011/00002

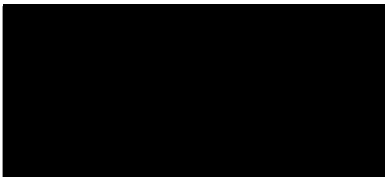
Sender Details:

Date Received: 7th January 2011
Country of Origin: Bulgaria
Date Reported: 11th January 2011

Dear Dr. Georgi Georgiev,

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/>

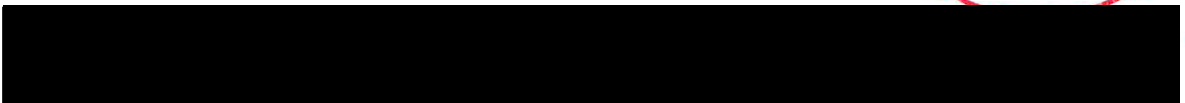
Results Approved By:



Official Stamp:



Date:



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: elizabeth.wilson@bbsrc.ac.uk)

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

Genotyping Report

Report Date for this Batch: 11 January 2011

FMDV type O

Country: Bulgaria

Period: 2010

No. of samples: 3

BATCH: WRLFMD/2011/00002



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O WRLFMD Ref No: BUL/1/2010 Batch No: WRLFMD/2011/00002 Sender Ref: 85.PP./0601.2011 Location: Kosti, Maketvetci, Malko Tarnovo, Bourgas, Bulgaria Date collected: 30/12/2010 Date received by WRLFMD: 07/01/2011 Date received for sequencing: 10/01/2011 Species: Wild Boar Material used: Epi susp Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 11/01/2011 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 ^{ANT-10} Sequence filename: BUL10-01.SEQ Date sequence last updated: 11/01/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2580 Min. no. of nt for comparison: 600 Total turn-around time: 4 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/BUL/2/2010	BUL10-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/BUL/3/2010	BUL10-03	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/TUR/18/2010	TUR10-18	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/TUR/153/2010* (FMDI)	TUR10-AR	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/TUR/154/2010* (FMDI)	TUR10-AS	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/92/2010	IRN10-92	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/94/2010	IRN10-94	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/95/2010	IRN10-95	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/TUR/35/2010	TUR10-35	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/114/2010	IRN10114	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	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	602	0	94.21	5.79	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{PUN-10}
6	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: BUL/2/2010 Batch No: WRLFMD/2011/00002 Sender Ref: 85.PP./0601.2011 Location: Kosti, Maketvetci, Malko Tarnovo, Bourgas, Bulgaria Date collected: 30/12/2010 Date received by WRLFMD: 07/01/2011 Date received for sequencing: 10/01/2011 Species: Wild Boar Material used: Epi susp Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 11/01/2011 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 ^{ANT-10} Sequence filename: BUL10-02.SEQ Date sequence last updated: 11/01/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2580 Min. no. of nt for comparison: 600 Total turn-around time: 4 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/BUL/1/2010	BUL10-01	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/BUL/3/2010	BUL10-03	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/TUR/18/2010	TUR10-18	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/TUR/153/2010* (FMDI)	TUR10-AR	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/TUR/154/2010* (FMDI)	TUR10-AS	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/92/2010	IRN10-92	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/94/2010	IRN10-94	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/95/2010	IRN10-95	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/TUR/35/2010	TUR10-35	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/104/2010	IRN10104	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)									
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1	O/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
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3	O/IRN/8/2005	IRN05-08	639	602	0	94.21	5.79	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{PUN-10}
6	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: BUL/3/2010 Batch No: WRLFMD/2011/00002 Sender Ref: 85.PP./0601.2011 Location: Kosti, Maketvetci, Malko Tarnovo, Bourgas, Bulgaria Date collected: 30/12/2010 Date received by WRLFMD: 07/01/2011 Date received for sequencing: 10/01/2011 Species: Wild Boar Material used: RS1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 11/01/2011 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: PanAsia-2 ^{ANT-10} Sequence filename: BUL10-03.SEQ Date sequence last updated: 11/01/2011 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2580 Min. no. of nt for comparison: 600 Total turn-around time: 4 days Sequencing time: 1 days
Comments:	

Most Closely Related Viruses									
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1	O/BUL/1/2010	BUL10-01	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/BUL/2/2010	BUL10-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/TUR/18/2010	TUR10-18	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
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5	O/TUR/154/2010* (FMDI)	TUR10-AS	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/92/2010	IRN10-92	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/94/2010	IRN10-94	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/95/2010	IRN10-95	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/TUR/35/2010	TUR10-35	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/104/2010	IRN10104	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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5	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{PUN-10}
6	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
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8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v3.11

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Report on FMDV O in Bulgaria in 2010

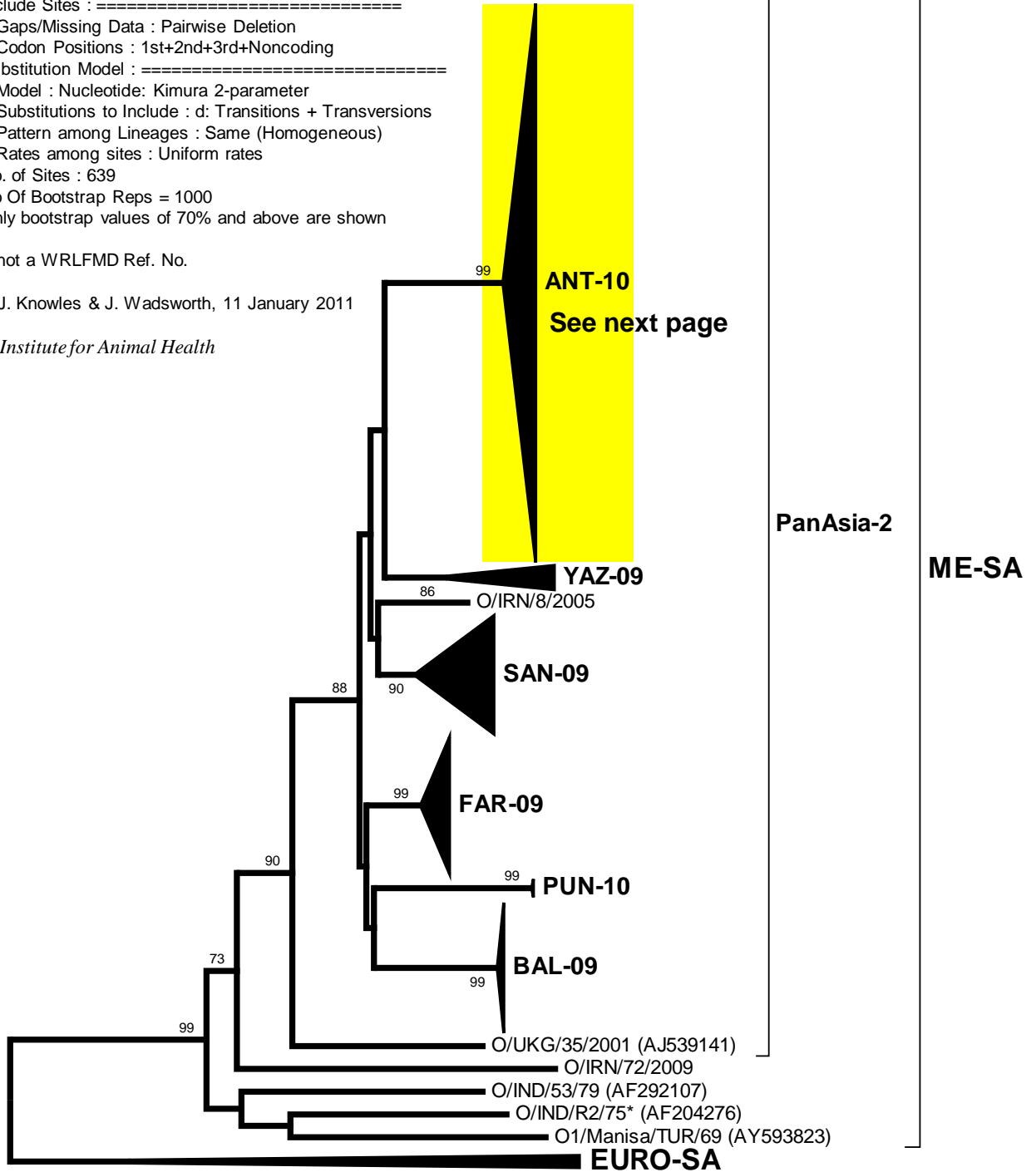
Batch: WRLFMD/2011/00002

Software: MEGA 4.0
 No. of Taxa : 335
 Data File : n:\evd\meg\db\fmdv\o\BUL2010a.meg
 Data Title : O Bulgaria 2010
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (1000 replicates; seed=64238)
 Include Sites : =====
 ->Gaps/Missing Data : Pairwise Deletion
 ->Codon Positions : 1st+2nd+3rd+Noncoding
 Substitution Model : =====
 ->Model : Nucleotide: Kimura 2-parameter
 ->Substitutions to Include : d: Transitions + Transversions
 ->Pattern among Lineages : Same (Homogeneous)
 ->Rates among sites : Uniform rates
 No. of Sites : 639
 No Of Bootstrap Reps = 1000
 Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 11 January 2011

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Report on FMDV O in Bulgaria in 2010

Batch: WRLFMD/2011/00002

