



**INSTITUTE FOR ANIMAL HEALTH**  
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## FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2011/00017

Sender Details:

Date Received: 5<sup>th</sup> April 2011  
Country of Origin: Bulgaria  
Date Reported: 18<sup>th</sup> April 2011

Dear Dr. Damyan Iliev,

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:

18 / 4 / 11

Testing carried out by WRLFMD is UKAS ISO/IEC 17025 accredited. Please see link for scope of accreditation:

[http://www.ukas.org/testing/lab\\_detail.asp?lab\\_id=2811&location\\_id=&vMenuOption=3](http://www.ukas.org/testing/lab_detail.asp?lab_id=2811&location_id=&vMenuOption=3) . 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](mailto:elizabeth.wilson@bbsrc.ac.uk))

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

## Genotyping Report

Report Date for this Batch: 15 April 2011

FMDV type O

Country: Bulgaria

Period: 2011

No. of samples: 6

BATCH: WRLFMD/2011/00017



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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 15/04/2011
WRLFMD Ref No: BUL/19/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00017	Checked by: V. Mioulet
Sender Ref: 4	
Location: Goliamo, Bukovo, Bulgaria	Topotype: ME-SA
Date collected: 28/03/2011	Genotype/strain: PamAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 05/04/2011	Sequence filename: BUL11-19.SEQ
Date received for sequencing: 13/04/2011	Date sequence last updated: 14/04/2011
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: 2706
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 10 days
	Sequencing time: 2 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/20/2011	BUL11-20	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
2	O/BUL/10/2011	BUL11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/BUL/11/2011	BUL11-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/BUL/13/2011	BUL11-13	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/BUL/14/2011	BUL11-14	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/BUL/15/2011	BUL11-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/BUL/23/2011	BUL11-23	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
8	O/BUL/25/2011	BUL11-25	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
9	O/BUL/26/2011	BUL11-26	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
10	O/BUL/27/2011	BUL11-27	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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	625	0	97.81	2.19	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 <sup>PUN-10</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 <sup>BAL-09</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	568	1	89.03	10.97	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	568	0	88.89	11.11	ME-SA	Ind-2001a

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 15/04/2011
WRLFMD Ref No: BUL/20/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00017	Checked by: V. Mioulet
Sender Ref: 5	
Location: Goliamo, Bukovo, Bulgaria	Topotype: ME-SA
Date collected: 28/03/2011	Genotype/strain: PamAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 05/04/2011	Sequence filename: BUL11-20.SEQ
Date received for sequencing: 13/04/2011	Date sequence last updated: 14/04/2011
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: 2706
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 10 days
	Sequencing time: 2 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/19/2011	BUL11-19	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
2	O/BUL/10/2011	BUL11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/BUL/11/2011	BUL11-11	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/BUL/13/2011	BUL11-13	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/BUL/14/2011	BUL11-14	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/BUL/15/2011	BUL11-15	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
7	O/BUL/23/2011	BUL11-23	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
8	O/BUL/25/2011	BUL11-25	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
9	O/BUL/26/2011	BUL11-26	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
10	O/BUL/27/2011	BUL11-27	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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	625	0	97.81	2.19	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 <sup>PUN-10</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 <sup>BAL-09</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	568	1	89.03	10.97	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	568	0	88.89	11.11	ME-SA	Ind-2001a

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 15/04/2011
WRLFMD Ref No: BUL/23/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00017	Checked by: V. Mioulet
Sender Ref: 8	
Location: Ganichar, Bulgaria	Topotype: ME-SA
Date collected: 28/03/2011	Genotype/strain: PamAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 05/04/2011	Sequence filename: BUL11-23.SEQ
Date received for sequencing: 13/04/2011	Date sequence last updated: 14/04/2011
Species: Cattle	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2706
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 10 days
	Sequencing time: 2 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/10/2011	BUL11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/BUL/11/2011	BUL11-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/BUL/13/2011	BUL11-13	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/BUL/14/2011	BUL11-14	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/BUL/15/2011	BUL11-15	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/BUL/25/2011	BUL11-25	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
7	O/BUL/26/2011	BUL11-26	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
8	O/BUL/27/2011	BUL11-27	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
9	O/BUL/1/2010	BUL10-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/BUL/19/2011	BUL11-19	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/PAK/16/2010	PAK10-16	639	598	0	93.58	6.42	ME-SA	PanAsia-2 <sup>PUN-10</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 15/04/2011
WRLFMD Ref No: BUL/25/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00017	Checked by: V. Mioulet
Sender Ref: 10	
Location: Ganichar, Bulgaria	Topotype: ME-SA
Date collected: 28/03/2011	Genotype/strain: PamAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 05/04/2011	Sequence filename: BUL11-25.SEQ
Date received for sequencing: 13/04/2011	Date sequence last updated: 14/04/2011
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: 2706
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 10 days
	Sequencing time: 2 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/10/2011	BUL11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/BUL/11/2011	BUL11-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/BUL/13/2011	BUL11-13	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/BUL/14/2011	BUL11-14	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/BUL/15/2011	BUL11-15	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/BUL/23/2011	BUL11-23	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
7	O/BUL/26/2011	BUL11-26	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
8	O/BUL/27/2011	BUL11-27	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
9	O/BUL/1/2010	BUL10-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/BUL/19/2011	BUL11-19	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/PAK/16/2010	PAK10-16	639	598	0	93.58	6.42	ME-SA	PanAsia-2 <sup>PUN-10</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 15/04/2011
WRLFMD Ref No: BUL/26/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00017	Checked by: V. Mioulet
Sender Ref: 11	
Location: Ganichar, Bulgaria	Topotype: ME-SA
Date collected: 28/03/2011	Genotype/strain: PamAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 05/04/2011	Sequence filename: BUL11-26.SEQ
Date received for sequencing: 13/04/2011	Date sequence last updated: 14/04/2011
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: 2706
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 10 days
	Sequencing time: 2 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/10/2011	BUL11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/BUL/11/2011	BUL11-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/BUL/13/2011	BUL11-13	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/BUL/14/2011	BUL11-14	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/BUL/15/2011	BUL11-15	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/BUL/23/2011	BUL11-23	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
7	O/BUL/25/2011	BUL11-25	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
8	O/BUL/27/2011	BUL11-27	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
9	O/BUL/1/2010	BUL10-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/BUL/19/2011	BUL11-19	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/PAK/16/2010	PAK10-16	639	598	0	93.58	6.42	ME-SA	PanAsia-2 <sup>PUN-10</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

\*, not a WRLFMD reference number

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# FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 15/04/2011
WRLFMD Ref No: BUL/27/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00017	Checked by: V. Mioulet
Sender Ref: 12	
Location: Ganichar, Bulgaria	Topotype: ME-SA
Date collected: 28/03/2011	Genotype/strain: PamAsia-2 <sup>ANT-10</sup>
Date received by WRLFMD: 05/04/2011	Sequence filename: BUL11-27.SEQ
Date received for sequencing: 13/04/2011	Date sequence last updated: 14/04/2011
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: 2706
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 10 days
	Sequencing time: 2 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/10/2011	BUL11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
2	O/BUL/11/2011	BUL11-11	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
3	O/BUL/13/2011	BUL11-13	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
4	O/BUL/14/2011	BUL11-14	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
5	O/BUL/15/2011	BUL11-15	639	639	0	100.00	0.00	ME-SA	PanAsia-2 <sup>ANT-10</sup>
6	O/BUL/23/2011	BUL11-23	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
7	O/BUL/25/2011	BUL11-25	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
8	O/BUL/26/2011	BUL11-26	639	639	0	100.00	0.00	ME-SA	PamAsia-2 <sup>ANT-10</sup>
9	O/BUL/1/2010	BUL10-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 <sup>ANT-10</sup>
10	O/BUL/19/2011	BUL11-19	639	637	0	99.69	0.31	ME-SA	PamAsia-2 <sup>ANT-10</sup>
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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 <sup>ANT-10</sup>
2	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 <sup>FAR-09</sup>
3	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 <sup>TER-08</sup>
5	O/PAK/16/2010	PAK10-16	639	598	0	93.58	6.42	ME-SA	PanAsia-2 <sup>PUN-10</sup>
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 <sup>SAN-09</sup>
7	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 <sup>BAL-09</sup>
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
10	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.0

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# Report on FMDV O in Bulgaria in 2011

Batch: WRLFMD/2011/00017

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 : 639

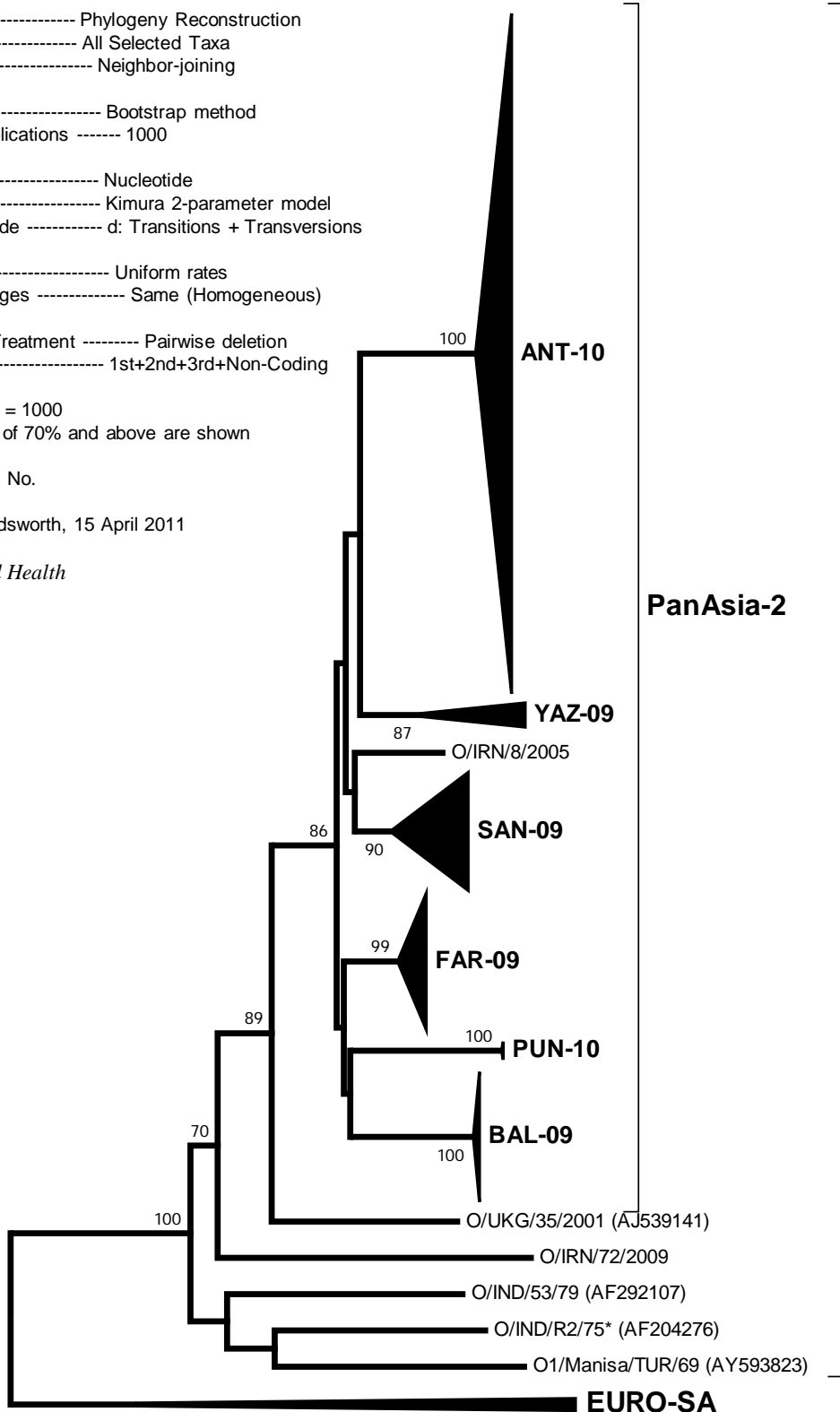
No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

\*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 15 April 2011

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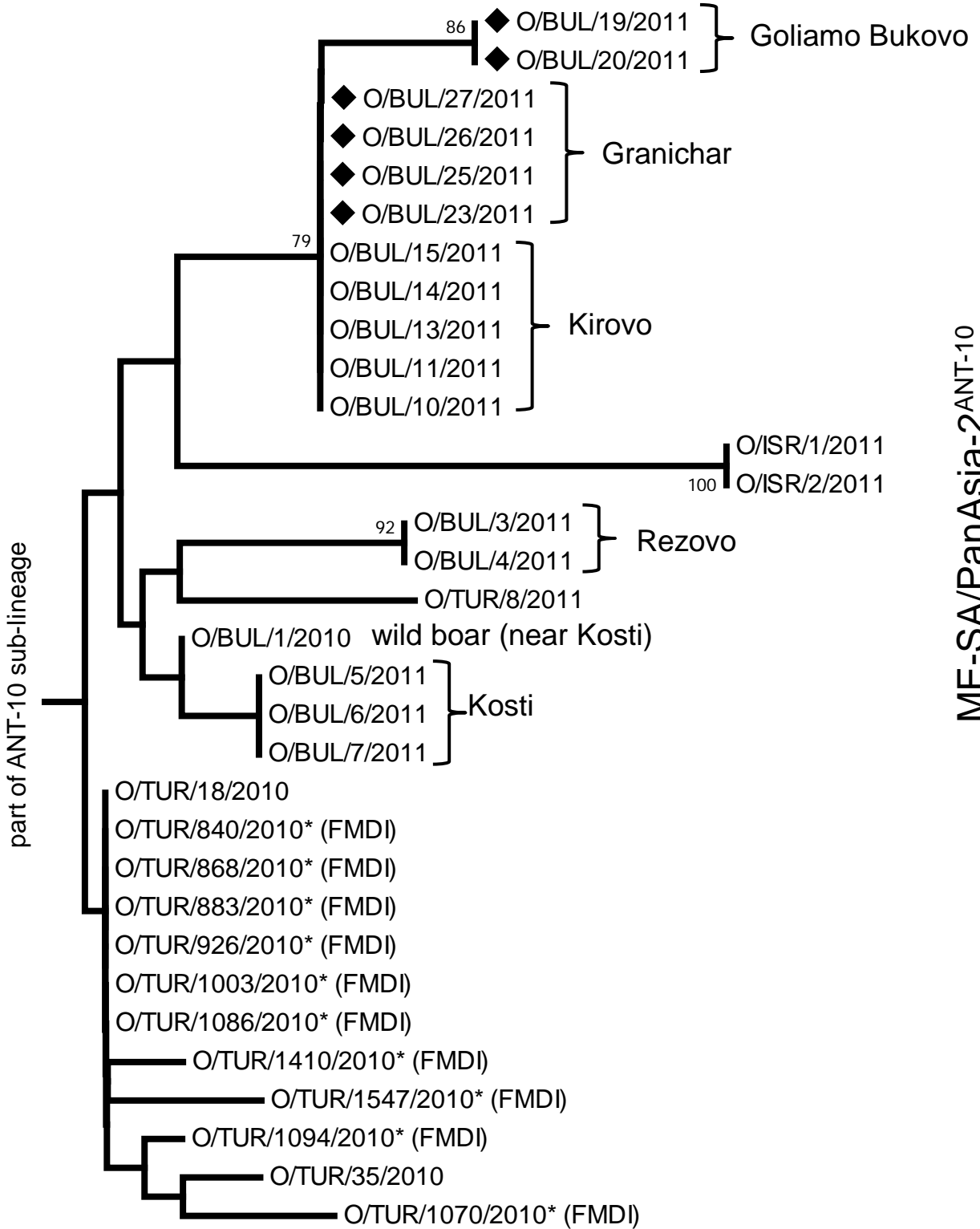


0.02

# Report on FMDV O in Bulgaria in 2011

Batch: WRLFMD/2011/00017

◆ indicates viruses in this batch



0.0005