

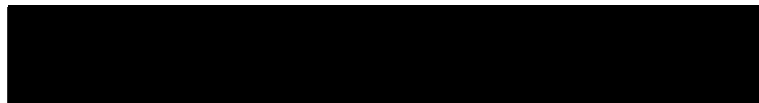


**INSTITUTE FOR ANIMAL HEALTH**  
Director: Professor John Fazakerley BSc, MBA, PhD, FRCPath  
**PIRBRIGHT LABORATORY**  
Ash Road,  
Pirbright,  
Surrey,  
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Tel: 01483 232441 Fax: 01483 232621

## **FMD Genotyping Report**

**Lab Reference WRL Batch Number:** WRLFMD/2011/00041

**Sender Details:**



**Date Received:** 29<sup>th</sup> September 2011

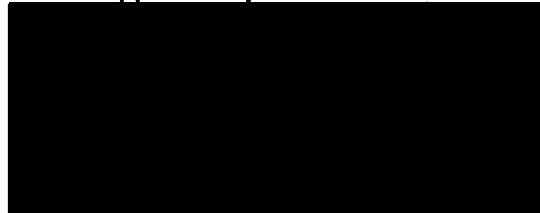
**Country of Origin:** Turkey

**Date Reported:** 18<sup>th</sup> October 2011

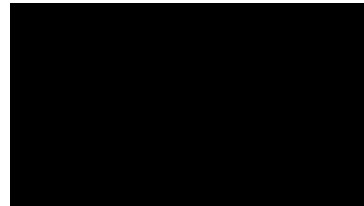
Dear Dr. Alkan,

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/>

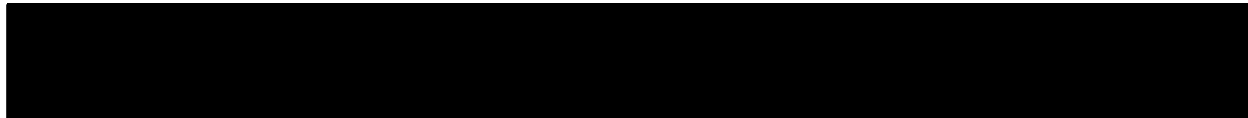
**Results Approved By:**



**Official Stamp:**



**Date:** 26 / 10 / 2011



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: [elizabeth.wilson@bbsrc.ac.uk](mailto:elizabeth.wilson@bbsrc.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: 14 October 2011

FMDV type Asia1

Country: Turkey

Period: 2011

No. of samples: 3

BATCH: WRLFMD/2011/00041



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# FAO World Reference Laboratory for FMD Genotyping Report

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

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Serotype: ASIA1 WRLFMD Ref No: TUR/49/2011 Batch No: WRLFMD/2011/00041 Sender Ref: 1328/2011 Location: Haciali, Merkez, Ardahan, East Anatolia, Turkey Date collected: 15/08/2011 Date received by WRLFMD: 29/09/2011 Date received for sequencing: 11/10/2011 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 14/10/2011 Reported by: N.J. Knowles Checked by: D.P. King  Topotype: ASIA Genotype/strain: unnamed Sequence filename: TUR11-49.SEQ Date sequence last updated: 13/10/2011 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 406 Min. no. of nt for comparison: 600 Total turn-around time: 15 days Sequencing time: 3 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/TUR/50/2011	TUR11-50	633	631	0	99.68	0.32	ASIA	unnamed
2	Asia1/TUR/51/2011	TUR11-51	633	630	0	99.53	0.47	ASIA	unnamed
3	Asia1/IRN/33/2011	IRN11-33	633	627	0	99.05	0.95	ASIA	unnamed
4	Asia1/IRN/38/2011	IRN11-38	633	627	0	99.05	0.95	ASIA	unnamed
5	Asia1/IRN/39/2011	IRN11-39	633	626	0	98.89	1.11	ASIA	unnamed
6	Asia1/IRN/43/2011	IRN11-43	633	626	0	98.89	1.11	ASIA	unnamed
7	Asia1/IRN/46/2011	IRN11-46	633	626	0	98.89	1.11	ASIA	unnamed
8	Asia1/IRN/49/2011	IRN11-49	633	626	0	98.89	1.11	ASIA	unnamed
9	Asia1/PAK/106/2010	PAK10106	633	626	0	98.89	1.11	ASIA	Unnamed
10	Asia1/PAK/108/2010	PAK10108	633	626	0	98.89	1.11	ASIA	Unnamed
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	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	573	0	90.52	9.48	ASIA	Group I
2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	540	0	85.31	14.69	ASIA	Group III
3	Asia1/IND/63/72* (AY304994)	IND72C63	630	535	0	84.92	15.08	ASIA	Unnamed
4	Asia1/IND/18/80 (DQ121116)	IND80-18	633	533	0	84.20	15.80	ASIA	Group V
5	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	532	0	84.04	15.96	ASIA	Unnamed
6	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	529	0	83.57	16.43	ASIA	Unnamed
8	Asia1/HKN/19/74	HKN74-19	633	528	0	83.41	16.59	ASIA	Unnamed
9	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb
10	Asia1/PAK/1/54 (AY593795)	PAK54A01	630	514	0	81.59	18.41	ASIA	Unnamed

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

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Serotype: ASIA1 WRLFMD Ref No: TUR/50/2011 Batch No: WRLFMD/2011/00041 Sender Ref: 1331/2011 Location: Haciali, Merkez, Ardahan, East Anatolia, Turkey Date collected: 15/08/2011 Date received by WRLFMD: 29/09/2011 Date received for sequencing: 11/10/2011 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 14/10/2011 Reported by: N.J. Knowles Checked by: D.P. King  Topotype: ASIA Genotype/strain: unnamed Sequence filename: TUR11-50.SEQ Date sequence last updated: 13/10/2011 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 406 Min. no. of nt for comparison: 600 Total turn-around time: 15 days Sequencing time: 3 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/TUR/51/2011	TUR11-51	633	632	0	99.84	0.16	ASIA	unnamed
2	Asia1/TUR/49/2011	TUR11-49	633	631	0	99.68	0.32	ASIA	unnamed
3	Asia1/IRN/33/2011	IRN11-33	633	625	0	98.74	1.26	ASIA	unnamed
4	Asia1/IRN/38/2011	IRN11-38	633	625	0	98.74	1.26	ASIA	unnamed
5	Asia1/IRN/39/2011	IRN11-39	633	624	0	98.58	1.42	ASIA	unnamed
6	Asia1/IRN/43/2011	IRN11-43	633	624	0	98.58	1.42	ASIA	unnamed
7	Asia1/IRN/46/2011	IRN11-46	633	624	0	98.58	1.42	ASIA	unnamed
8	Asia1/IRN/49/2011	IRN11-49	633	624	0	98.58	1.42	ASIA	unnamed
9	Asia1/PAK/106/2010	PAK10106	633	624	0	98.58	1.42	ASIA	Unnamed
10	Asia1/PAK/108/2010	PAK10108	633	624	0	98.58	1.42	ASIA	Unnamed
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	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	573	0	90.52	9.48	ASIA	Group I
2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	540	0	85.31	14.69	ASIA	Group III
3	Asia1/IND/63/72* (AY304994)	IND72C63	630	535	0	84.92	15.08	ASIA	Unnamed
4	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
5	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	532	0	84.04	15.96	ASIA	Unnamed
6	Asia1/Shamir/ISR/89	ISR89--A	633	530	0	83.73	16.27	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	529	0	83.57	16.43	ASIA	Unnamed
8	Asia1/HKN/19/74	HKN74-19	633	528	0	83.41	16.59	ASIA	Unnamed
9	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	524	0	82.78	17.22	ASIA	Group VIb
10	Asia1/PAK/1/54 (AY593795)	PAK54A01	630	514	0	81.59	18.41	ASIA	Unnamed

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

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Serotype: ASIA1 WRLFMD Ref No: TUR/51/2011 Batch No: WRLFMD/2011/00041 Sender Ref: 1332/2011 Location: Haciali, Merkez, Ardahan, East Anatolia, Turkey Date collected: 15/08/2011 Date received by WRLFMD: 29/09/2011 Date received for sequencing: 11/10/2011 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 14/10/2011 Reported by: N.J. Knowles Checked by: D.P. King  Topotype: ASIA Genotype/strain: unnamed Sequence filename: TUR11-51.SEQ Date sequence last updated: 13/10/2011 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 406 Min. no. of nt for comparison: 600 Total turn-around time: 15 days Sequencing time: 3 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	Asia1/TUR/50/2011	TUR11-50	633	632	0	99.84	0.16	ASIA	unnamed
2	Asia1/TUR/49/2011	TUR11-49	633	630	0	99.53	0.47	ASIA	unnamed
3	Asia1/BAR/1/2011	BAR11-01	633	624	0	98.58	1.42	ASIA	Unnamed
4	Asia1/BAR/2/2011	BAR11-02	633	624	0	98.58	1.42	ASIA	Unnamed
5	Asia1/IRN/33/2011	IRN11-33	633	624	0	98.58	1.42	ASIA	unnamed
6	Asia1/IRN/38/2011	IRN11-38	633	624	0	98.58	1.42	ASIA	unnamed
7	Asia1/AFG/40/2011	AFG11-40	633	623	0	98.42	1.58	ASIA	unnamed
8	Asia1/IRN/39/2011	IRN11-39	633	623	0	98.42	1.58	ASIA	unnamed
9	Asia1/IRN/43/2011	IRN11-43	633	623	0	98.42	1.58	ASIA	unnamed
10	Asia1/IRN/46/2011	IRN11-46	633	623	0	98.42	1.58	ASIA	unnamed
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	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	572	0	90.36	9.64	ASIA	Group I
2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
3	Asia1/IND/63/72* (AY304994)	IND72C63	630	534	0	84.76	15.24	ASIA	Unnamed
4	Asia1/IND/18/80 (DQ121116)	IND80-18	633	534	0	84.36	15.64	ASIA	Group V
5	Asia1/YNBS/CHA/58 (AY390432)	CHA58-AA	633	531	0	83.89	16.11	ASIA	Unnamed
6	Asia1/Shamir/ISR/89	ISR89--A	633	529	0	83.57	16.43	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	528	0	83.41	16.59	ASIA	Unnamed
8	Asia1/HKN/19/74	HKN74-19	633	527	0	83.25	16.75	ASIA	Unnamed
9	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	523	0	82.62	17.38	ASIA	Group VIb
10	Asia1/PAK/1/54 (AY593795)	PAK54A01	630	513	0	81.43	18.57	ASIA	Unnamed

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.1

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# Report on FMDV Asia 1 in Turkey in 2011

Batch: WRLFMD/2011/00041

◆ 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 : 638

No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

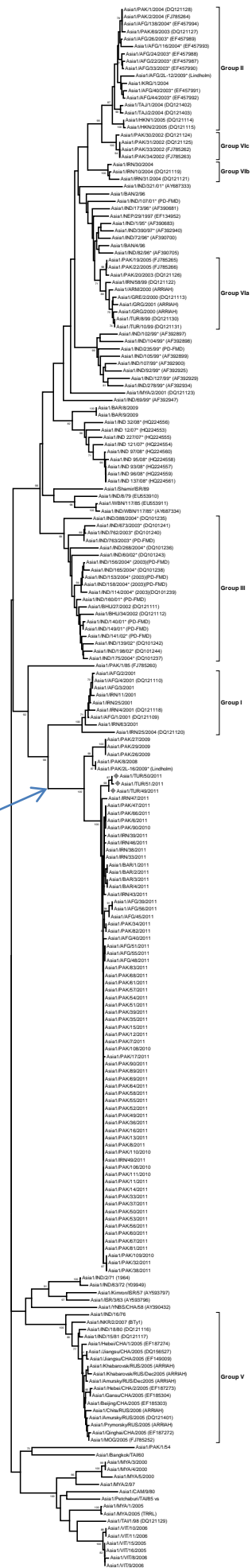
\*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 14 October 2011

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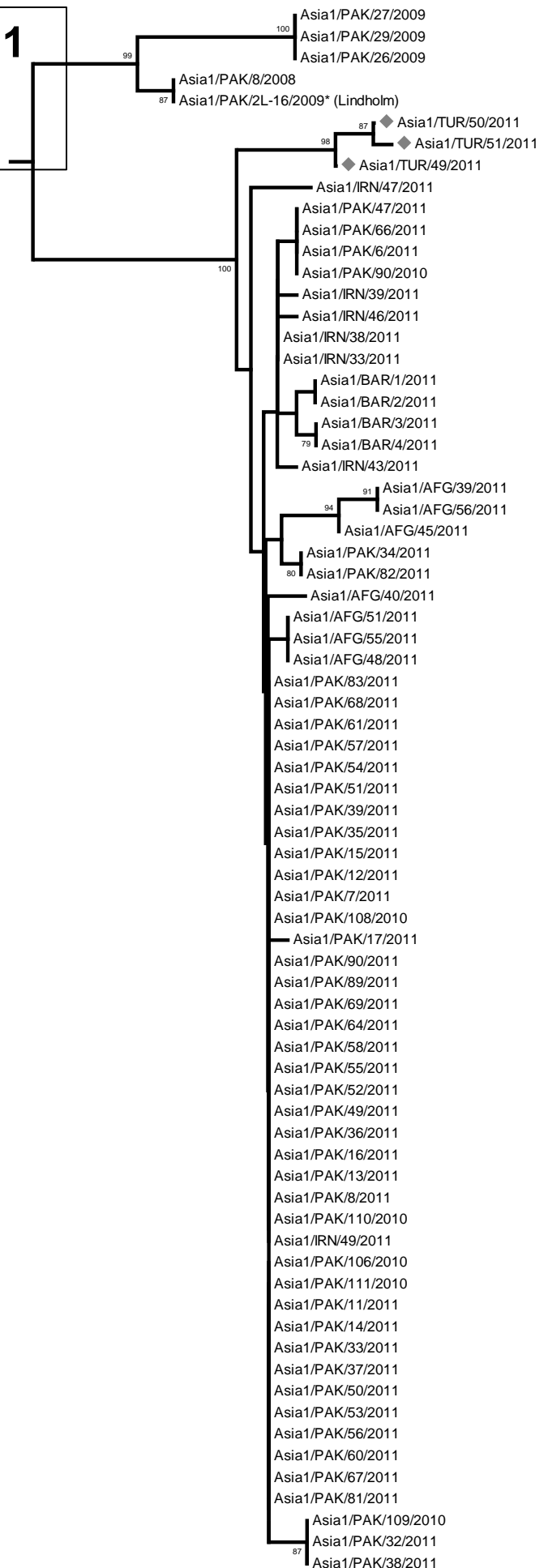
See next page



# Report on FMDV Asia 1 in Turkey in 2011

Batch: WRLFMD/2011/00041

◆ indicates viruses in this batch



0.005