



INSTITUTE FOR ANIMAL HEALTH

Acting Director: Professor David Paton MA, VetMB, PhD, MRCVS

PIRBRIGHT LABORATORY

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Surrey,

GU24 0NF

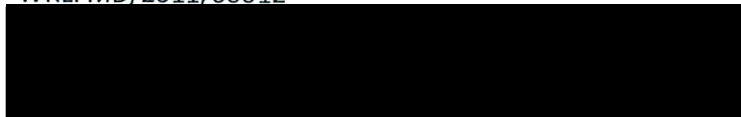
Intn Tel: 00 44 1483 232441

Tel: 01483 232441 Fax: 01483 232621

FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2011/00012

Sender Details:



Date Received: 7th March 2011

Country of Origin: Bahrain

Date Reported: 21st March 2011

Dear Dr. Fajer Al Saloom,

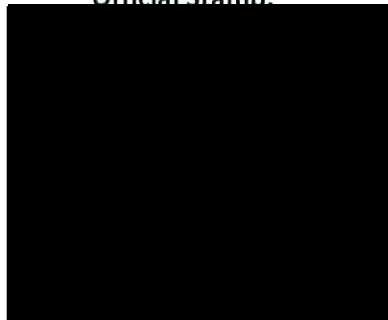
Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at:

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

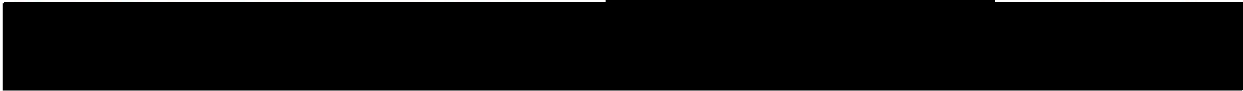
Results Approved By:



Official Stamp:



Date: 21/3/2011



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: 18 March 2011

FMDV type Asia 1

Country: Bahrain

Period: 2011

No. of samples: 4

BATCH: WRLFMD/2011/00012



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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: BAR/1/2011 Batch No: WRLFMD/2011/00012 Sender Ref: not given Location: not given, Bahrain Date collected: 22/02/2011 Date received by WRLFMD: 07/03/2011 Date received for sequencing: 11/03/2011 Species: Not Known Material used: BTy1 Region sequenced: VP1 RT-PCR primers: As1-1C530F/EUR-2B52R As1-1C613F/EUR-2B52R	Report date: 18/03/2011 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Unnamed Sequence filename: BAR11-01.SEQ Date sequence last updated: 18/03/2011 No. of Nt determined: 633 No. of ambiguities: 0 Gene length: 633 Total no. of comparisons: 365 Min. no. of nt for comparison: 600 Total turn-around time: 11 days Sequencing time: 7 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/BAR/2/2011	BAR11-02	633	633	0	100.00	0.00	ASIA	Unnamed
2	Asia1/BAR/3/2011	BAR11-03	633	631	0	99.68	0.32	ASIA	Unnamed
3	Asia1/BAR/4/2011	BAR11-04	633	631	0	99.68	0.32	ASIA	Unnamed
4	Asia1/PAK/106/2010	PAK10106	633	630	0	99.53	0.47	ASIA	Unnamed
5	Asia1/PAK/108/2010	PAK10108	633	630	0	99.53	0.47	ASIA	Unnamed
6	Asia1/PAK/11/2011	PAK11-11	633	630	0	99.53	0.47	ASIA	Unnamed
7	Asia1/PAK/110/2010	PAK10110	633	630	0	99.53	0.47	ASIA	Unnamed
8	Asia1/PAK/111/2010	PAK10111	633	630	0	99.53	0.47	ASIA	Unnamed
9	Asia1/PAK/12/2011	PAK11-12	633	630	0	99.53	0.47	ASIA	Unnamed
10	Asia1/PAK/13/2011	PAK11-13	633	630	0	99.53	0.47	ASIA	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	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	575	0	90.84	9.16	ASIA	Group I
2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
3	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
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	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	530	0	83.73	16.27	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	525	0	82.94	17.06	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

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Serotype: ASIA1	Report date: 18/03/2011
WRLFMD Ref No: BAR/2/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00012	Checked by: D.P. King
Sender Ref: not given	
Location: not given, Bahrain	Topotype: ASIA
Date collected: 22/02/2011	Genotype/strain: Unnamed
Date received by WRLFMD: 07/03/2011	Sequence filename: BAR11-02.SEQ
Date received for sequencing: 11/03/2011	Date sequence last updated: 18/03/2011
Species: Not Known	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 365
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 11 days
	Sequencing time: 7 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/BAR/1/2011	BAR11-01	633	633	0	100.00	0.00	ASIA	Unnamed
2	Asia1/BAR/3/2011	BAR11-03	633	631	0	99.68	0.32	ASIA	Unnamed
3	Asia1/BAR/4/2011	BAR11-04	633	631	0	99.68	0.32	ASIA	Unnamed
4	Asia1/PAK/106/2010	PAK10106	633	630	0	99.53	0.47	ASIA	Unnamed
5	Asia1/PAK/108/2010	PAK10108	633	630	0	99.53	0.47	ASIA	Unnamed
6	Asia1/PAK/11/2011	PAK11-11	633	630	0	99.53	0.47	ASIA	Unnamed
7	Asia1/PAK/110/2010	PAK10110	633	630	0	99.53	0.47	ASIA	Unnamed
8	Asia1/PAK/111/2010	PAK10111	633	630	0	99.53	0.47	ASIA	Unnamed
9	Asia1/PAK/12/2011	PAK11-12	633	630	0	99.53	0.47	ASIA	Unnamed
10	Asia1/PAK/13/2011	PAK11-13	633	630	0	99.53	0.47	ASIA	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	Asia1/AFG/1/2001 (DQ121109)	AFG01-01	633	575	0	90.84	9.16	ASIA	Group I
2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
3	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
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	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/IND/14/95* (AF390678)	IND95-AA	633	530	0	83.73	16.27	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	525	0	82.94	17.06	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

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

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Serotype: ASIA1	Report date: 18/03/2011
WRLFMD Ref No: BAR/3/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00012	Checked by: D.P. King
Sender Ref: not given	
Location: not given, Bahrain	Topotype: ASIA
Date collected: 22/02/2011	Genotype/strain: Unnamed
Date received by WRLFMD: 07/03/2011	Sequence filename: BAR11-03.SEQ
Date received for sequencing: 11/03/2011	Date sequence last updated: 18/03/2011
Species: Not Known	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 365
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 11 days
	Sequencing time: 7 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/BAR/4/2011	BAR11-04	633	633	0	100.00	0.00	ASIA	Unnamed
2	Asia1/BAR/1/2011	BAR11-01	633	631	0	99.68	0.32	ASIA	Unnamed
3	Asia1/BAR/2/2011	BAR11-02	633	631	0	99.68	0.32	ASIA	Unnamed
4	Asia1/PAK/106/2010	PAK10106	633	630	0	99.53	0.47	ASIA	Unnamed
5	Asia1/PAK/108/2010	PAK10108	633	630	0	99.53	0.47	ASIA	Unnamed
6	Asia1/PAK/11/2011	PAK11-11	633	630	0	99.53	0.47	ASIA	Unnamed
7	Asia1/PAK/110/2010	PAK10110	633	630	0	99.53	0.47	ASIA	Unnamed
8	Asia1/PAK/111/2010	PAK10111	633	630	0	99.53	0.47	ASIA	Unnamed
9	Asia1/PAK/12/2011	PAK11-12	633	630	0	99.53	0.47	ASIA	Unnamed
10	Asia1/PAK/13/2011	PAK11-13	633	630	0	99.53	0.47	ASIA	Unnamed
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2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
3	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
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	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/HKN/19/74	HKN74-19	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/IND/14/95* (AF390678)	IND95-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	525	0	82.94	17.06	ASIA	Group VIb
10	Asia1/PAK/1/54 (AY593795)	PAK54A01	630	513	0	81.43	18.57	ASIA	Unnamed

nt, nucleotides

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Serotype: ASIA1	Report date: 18/03/2011
WRLFMD Ref No: BAR/4/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00012	Checked by: D.P. King
Sender Ref: not given	
Location: not given, Bahrain	Topotype: ASIA
Date collected: 22/02/2011	Genotype/strain: Unnamed
Date received by WRLFMD: 07/03/2011	Sequence filename: BAR11-04.SEQ
Date received for sequencing: 11/03/2011	Date sequence last updated: 18/03/2011
Species: Not Known	No. of Nt determined: 633
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 633
RT-PCR primers: As1-1C530F/EUR-2B52R	Total no. of comparisons: 365
As1-1C613F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 11 days
	Sequencing time: 7 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/BAR/3/2011	BAR11-03	633	633	0	100.00	0.00	ASIA	Unnamed
2	Asia1/BAR/1/2011	BAR11-01	633	631	0	99.68	0.32	ASIA	Unnamed
3	Asia1/BAR/2/2011	BAR11-02	633	631	0	99.68	0.32	ASIA	Unnamed
4	Asia1/PAK/106/2010	PAK10106	633	630	0	99.53	0.47	ASIA	Unnamed
5	Asia1/PAK/108/2010	PAK10108	633	630	0	99.53	0.47	ASIA	Unnamed
6	Asia1/PAK/11/2011	PAK11-11	633	630	0	99.53	0.47	ASIA	Unnamed
7	Asia1/PAK/110/2010	PAK10110	633	630	0	99.53	0.47	ASIA	Unnamed
8	Asia1/PAK/111/2010	PAK10111	633	630	0	99.53	0.47	ASIA	Unnamed
9	Asia1/PAK/12/2011	PAK11-12	633	630	0	99.53	0.47	ASIA	Unnamed
10	Asia1/PAK/13/2011	PAK11-13	633	630	0	99.53	0.47	ASIA	Unnamed
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(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
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2	Asia1/IND/762/2003* (DQ101240)	IND03-AB	633	539	0	85.15	14.85	ASIA	Group III
3	Asia1/IND/18/80 (DQ121116)	IND80-18	633	535	0	84.52	15.48	ASIA	Group V
4	Asia1/IND/63/72* (AY304994)	IND72C63	630	532	0	84.44	15.56	ASIA	Unnamed
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	531	0	83.89	16.11	ASIA	Unnamed
7	Asia1/HKN/19/74	HKN74-19	633	530	0	83.73	16.27	ASIA	Unnamed
8	Asia1/IND/14/95* (AF390678)	IND95-AA	633	530	0	83.73	16.27	ASIA	Unnamed
9	Asia1/IRN/10/2004 (DQ121119)	IRN04-10	633	525	0	82.94	17.06	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 v4.0

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Report on FMDV Asia 1 in Bahrain in 2011

Batch: WRLFMD/2011/00012

◆ 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

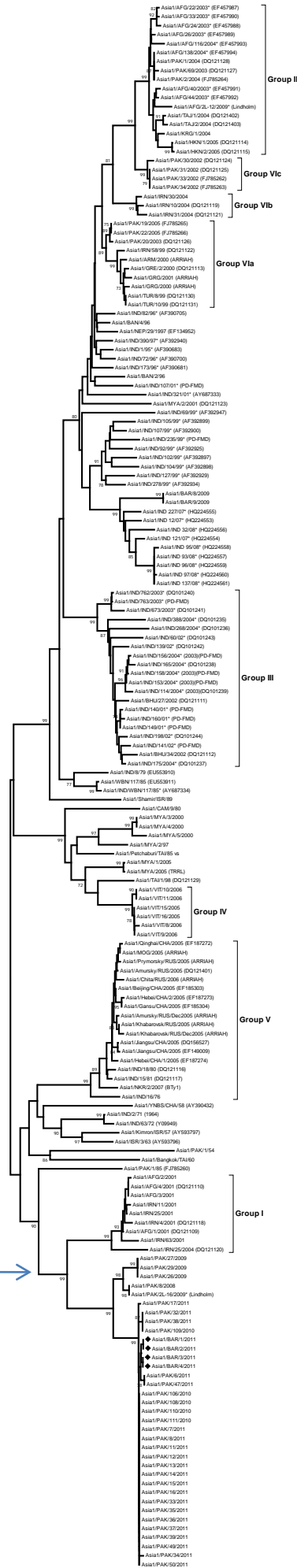
No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 18 March 2011

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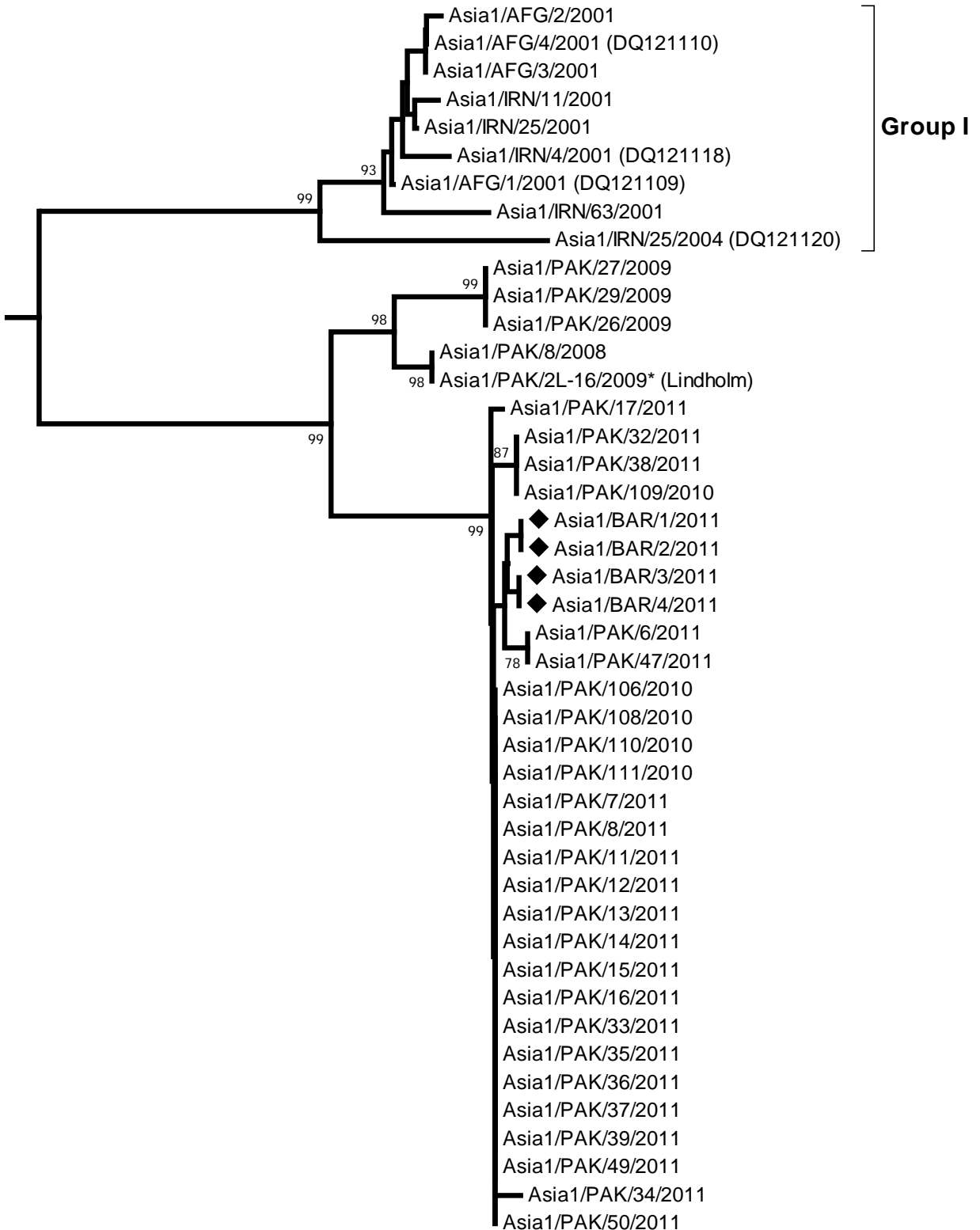


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Report on FMDV Asia 1 in Bahrain in 2011

Batch: WRLFMD/2011/00012

◆ indicates viruses in this batch



0.01