



INSTITUTE FOR ANIMAL HEALTH
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FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00017
Sender Details:



Date Received: 9th April 2010
Country of Origin: Afghanistan
Date Reported: 22nd June 2010

Dear Dr. Ehtisham Khan,

Re.: Serotype A

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: 24/6/10



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

Date: 21 June 2010

FMDV type A

Country: Afghanistan

Period: 2009-2010

No. of isolates: 17

BATCH: WRLFMD/2010/00017

The following 17 samples, originally reported as FMDV-GD have now been amplified and sequenced using FMDV A primers:

AFG/8/2009, AFG/9/2009, AFG/11/2009, AFG/13/2009, AFG/14/2009, AFG/15/2009, AFG/16/2009, AFG/17/2009, AFG/41/2009, AFG/3/2010, AFG/6/2010, AFG/9/2010, AFG/10/2010, AFG/15/2010, AFG/16/2010, AFG/17/2010 & AFG/18/2010.



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Serotype: A WRLFMD Ref No: AFG/8/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-55/98 Location: Qarghanat, Center, Bamyan, Afghanistan Date collected: 12/10/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-08.SEQ Date sequence last updated: 28/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/14/2009	AFG09-14	639	637	0	99.69	0.31	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/15/2009	AFG09-15	639	637	0	99.69	0.31	ASIA	Iran-05 ^{AFG-07}
3	A/PAK/13/2008	PAK08-13	639	636	0	99.53	0.47	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/13/2009	AFG09-13	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/23/2010	PAK10-23	639	634	0	99.22	0.78	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/1/2009	PAK09-01	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/PAK/12/2010	PAK10-12	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/2/2009	PAK09-02	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/24/2009	PAK09-24	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/31/2009	PAK09-31	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
Most Closely Related Reference Viruses									
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1	A/AFG/6/2007	AFG07-06	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	608	0	95.15	4.85	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	606	0	94.84	5.16	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	597	0	93.43	6.57	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	539	0	84.75	15.25	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	531	0	83.49	16.51	ASIA	Thai-97
9	A22/IRQ/64 (AY593763)	IRQ64--A	639	532	0	83.26	16.74	ASIA	A ₂₂
10	A/IRN/22/99 (EF208772)	IRN99-22	636	529	0	83.18	16.82	ASIA	Iran-99

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/9/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-55/99 Location: Qarghanat, Center, Bamyan, Afghanistan Date collected: 12/10/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-09.SEQ Date sequence last updated: 27/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
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Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/11/2009	AFG09-11	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/78/2009	IRN09-78	639	621	0	97.18	2.82	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/44/2007	AFG07-44	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/6/2010	AFG10-06	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/9/2010	AFG10-09	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/9/2009	IRN09-09	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/26/2009	IRN09-26	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
9	A/BAR/2/2009	BAR09-02	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
10	A/BAR/4/2009	BAR09-04	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
Most Closely Related Reference Viruses									
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Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
2	A/BAR/6/2008	BAR08-06	639	609	0	95.31	4.69	ASIA	Iran-05 ^{BAR-08}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	607	0	94.99	5.01	ASIA	Iran-05
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	594	0	92.96	7.04	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/22/99 (EF208772)	IRN99-22	636	535	0	84.12	15.88	ASIA	Iran-99
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	534	0	83.96	16.04	ASIA	Thai-87
8	A/IRN/2/87 (EF208770)	IRN87-02	636	533	0	83.81	16.19	ASIA	Iran-87
9	A/TAI/2/97 (EF208778)	TAI97-02	636	531	0	83.49	16.51	ASIA	Thai-97
10	A/IRN/1/96 (EF208771)	IRN96-01	638	527	1	82.60	17.40	ASIA	Iran-96

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/11/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-56/101 Location: Qarghanat, Center, Bamyan, Afghanistan Date collected: 12/10/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-11.SEQ Date sequence last updated: 27/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
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Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/9/2009	AFG09-09	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/78/2009	IRN09-78	639	621	0	97.18	2.82	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/44/2007	AFG07-44	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/6/2010	AFG10-06	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/9/2010	AFG10-09	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/9/2009	IRN09-09	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/26/2009	IRN09-26	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
9	A/BAR/2/2009	BAR09-02	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
10	A/BAR/4/2009	BAR09-04	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
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Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
2	A/BAR/6/2008	BAR08-06	639	609	0	95.31	4.69	ASIA	Iran-05 ^{BAR-08}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	607	0	94.99	5.01	ASIA	Iran-05
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	594	0	92.96	7.04	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/22/99 (EF208772)	IRN99-22	636	535	0	84.12	15.88	ASIA	Iran-99
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	534	0	83.96	16.04	ASIA	Thai-87
8	A/IRN/2/87 (EF208770)	IRN87-02	636	533	0	83.81	16.19	ASIA	Iran-87
9	A/TAI/2/97 (EF208778)	TAI97-02	636	531	0	83.49	16.51	ASIA	Thai-97
10	A/IRN/1/96 (EF208771)	IRN96-01	638	527	1	82.60	17.40	ASIA	Iran-96

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/13/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-52 Location: Zaren, Yakawlang, Bamyan, Afghanistan Date collected: 13/10/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-13.SEQ Date sequence last updated: 28/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
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Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/14/2009	AFG09-14	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/15/2009	AFG09-15	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/8/2009	AFG09-08	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
4	A/PAK/13/2008	PAK08-13	639	634	0	99.22	0.78	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/23/2010	PAK10-23	639	634	0	99.22	0.78	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/12/2010	PAK10-12	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/PAK/1/2009	PAK09-01	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/2/2009	PAK09-02	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/24/2009	PAK09-24	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/31/2009	PAK09-31	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
Most Closely Related Reference Viruses									
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1	A/AFG/6/2007	AFG07-06	639	618	0	96.71	3.29	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	608	0	95.15	4.85	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	606	0	94.84	5.16	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	602	0	94.21	5.79	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	597	0	93.43	6.57	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	539	0	84.75	15.25	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	531	0	83.49	16.51	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	529	0	83.18	16.82	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	530	0	82.94	17.06	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/14/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-54/96 Location: Dara-I-Ali, Yakawlang, Bamyan, Afghanistan Date collected: 13/10/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-14.SEQ Date sequence last updated: 28/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
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1	A/AFG/15/2009	AFG09-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/8/2009	AFG09-08	639	637	0	99.69	0.31	ASIA	Iran-05 ^{AFG-07}
3	A/PAK/13/2008	PAK08-13	639	636	0	99.53	0.47	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/13/2009	AFG09-13	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/23/2010	PAK10-23	639	634	0	99.22	0.78	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/1/2009	PAK09-01	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/PAK/12/2010	PAK10-12	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/2/2009	PAK09-02	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/24/2009	PAK09-24	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/31/2009	PAK09-31	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
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8	A22/IRQ/64 (AY593763)	IRQ64--A	639	534	0	83.57	16.43	ASIA	A22
9	A/TAI/2/97 (EF208778)	TAI97-02	636	531	0	83.49	16.51	ASIA	Thai-97
10	A/IRN/22/99 (EF208772)	IRN99-22	636	529	0	83.18	16.82	ASIA	Iran-99

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Serotype: A WRLFMD Ref No: AFG/15/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-54/97 Location: Dara-I-Ali, Yakawlang, Bamyan, Afghanistan Date collected: 13/10/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-15.SEQ Date sequence last updated: 28/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
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7	A/PAK/12/2010	PAK10-12	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/2/2009	PAK09-02	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/24/2009	PAK09-24	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
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(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	A/AFG/6/2007	AFG07-06	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	608	0	95.15	4.85	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	606	0	94.84	5.16	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	597	0	93.43	6.57	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	539	0	84.75	15.25	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
8	A22/IRQ/64 (AY593763)	IRQ64--A	639	534	0	83.57	16.43	ASIA	A22
9	A/TAI/2/97 (EF208778)	TAI97-02	636	531	0	83.49	16.51	ASIA	Thai-97
10	A/IRN/22/99 (EF208772)	IRN99-22	636	529	0	83.18	16.82	ASIA	Iran-99

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/16/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-59/105 Location: Sar Qad, Aibak Cent, Samangan, Afghanistan Date collected: 16/11/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-16.SEQ Date sequence last updated: 28/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/17/2009	AFG09-17	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/PAK/13/2008	PAK08-13	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/14/2009	AFG09-14	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/15/2009	AFG09-15	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/8/2009	AFG09-08	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/23/2010	PAK10-23	639	628	0	98.28	1.72	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/13/2009	AFG09-13	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/1/2009	PAK09-01	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/12/2010	PAK10-12	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/2/2009	PAK09-02	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	610	0	95.46	4.54	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	607	0	94.99	5.01	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	597	0	93.43	6.57	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	539	0	84.75	15.25	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
8	A22/IRQ/64 (AY593763)	IRQ64--A	639	532	0	83.26	16.74	ASIA	A22
9	A/TAI/2/97 (EF208778)	TAI97-02	636	529	0	83.18	16.82	ASIA	Thai-97
10	A/TAI/7/2003	TAI03-07	636	529	0	83.18	16.82	ASIA	Thai-03

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/17/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-59/106 Location: Sar Qad, Aibak Cent, Samangan, Afghanistan Date collected: 16/11/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-17.SEQ Date sequence last updated: 28/05/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/16/2009	AFG09-16	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/PAK/13/2008	PAK08-13	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/14/2009	AFG09-14	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/15/2009	AFG09-15	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/8/2009	AFG09-08	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/23/2010	PAK10-23	639	628	0	98.28	1.72	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/13/2009	AFG09-13	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/1/2009	PAK09-01	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/12/2010	PAK10-12	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/2/2009	PAK09-02	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	610	0	95.46	4.54	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	607	0	94.99	5.01	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	597	0	93.43	6.57	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	539	0	84.75	15.25	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
8	A22/IRQ/64 (AY593763)	IRQ64--A	639	532	0	83.26	16.74	ASIA	A22
9	A/TAI/2/97 (EF208778)	TAI97-02	636	529	0	83.18	16.82	ASIA	Thai-97
10	A/TAI/7/2003	TAI03-07	636	529	0	83.18	16.82	ASIA	Thai-03

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: AFG/41/2009 Batch No: WRLFMD/2010/00017 Sender Ref: AA-75/148 Location: Char Rahi, Nahar Sha, Balkh, Afghanistan Date collected: 08/12/2009 Date received by WRLFMD: 09/04/2010 Date received for sequencing: 18/05/2010 Species: Not Known Material used: Epithelium suspension Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R	Report date: 18/06/2010 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ASIA Genotype/strain: Iran-05 ^{AFG-07} Sequence filename: AFG09-41.SEQ Date sequence last updated: 18/06/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1303 Min. no. of nt for comparison: 300 Total turn-around time: 70 days Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/15/2010	AFG10-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/16/2010	AFG10-16	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/17/2010	AFG10-17	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/18/2010	AFG10-18	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/24/2010	PAK10-24	639	638	0	99.84	0.16	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/13/2008	PAK08-13	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/14/2009	AFG09-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
8	A/AFG/15/2009	AFG09-15	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
9	A/AFG/8/2009	AFG09-08	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/23/2010	PAK10-23	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	619	0	96.87	3.13	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	609	0	95.31	4.69	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	605	0	94.68	5.32	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	600	0	93.90	6.10	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	541	0	85.06	14.94	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	532	0	83.65	16.35	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	531	0	83.49	16.51	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	533	0	83.41	16.59	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/3/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-83/166	
Location: Baba Haji, 2nd, Hirat, Afghanistan	Topotype: ASIA
Date collected: 08/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-03.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 28/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/PAK/13/2008	PAK08-13	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
2	A/PAK/23/2010	PAK10-23	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/13/2009	AFG09-13	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/14/2009	AFG09-14	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/15/2009	AFG09-15	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
6	A/AFG/8/2009	AFG09-08	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
7	A/PAK/1/2009	PAK09-01	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/12/2010	PAK10-12	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/2/2009	PAK09-02	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/24/2009	PAK09-24	639	627	0	98.12	1.88	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	604	0	94.52	5.48	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	598	0	93.58	6.42	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	593	0	92.80	7.20	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
8	A22/IRQ/64 (AY593763)	IRQ64--A	639	532	0	83.26	16.74	ASIA	A ₂₂
9	A/TAI/2/97 (EF208778)	TAI97-02	636	526	0	82.70	17.30	ASIA	Thai-97
10	A/TAI/7/2003	TAI03-07	636	523	0	82.23	17.77	ASIA	Thai-03

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/6/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-84/169	
Location: Qala-I-Reg, 9th, Hirat, Afghanistan	Topotype: ASIA
Date collected: 08/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-06.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 28/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/9/2010	AFG10-09	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
2	A/PAK/10/2008	PAK08-10	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
3	A/PAK/12/2008	PAK08-12	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
4	A/PAK/7/2008	PAK08-07	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/9/2008	PAK08-09	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/9/2009	IRN09-09	639	622	0	97.34	2.66	ASIA	Iran-05 ^{AFG-07}
7	A/IRN/15/2009	IRN09-15	639	621	0	97.18	2.82	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/26/2009	IRN09-26	639	621	0	97.18	2.82	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/67/2009	IRN09-67	639	621	0	97.18	2.82	ASIA	Iran-05 ^{AFG-07}
10	A/AFG/44/2007	AFG07-44	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	619	0	96.87	3.13	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	610	0	95.46	4.54	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	609	0	95.31	4.69	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	602	0	94.21	5.79	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	599	0	93.74	6.26	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	545	0	85.69	14.31	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	540	0	84.91	15.09	ASIA	Iran-87
8	A/IRN/22/99 (EF208772)	IRN99-22	636	534	0	83.96	16.04	ASIA	Iran-99
9	A/TAI/2/97 (EF208778)	TAI97-02	636	534	0	83.96	16.04	ASIA	Thai-97
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	533	0	83.41	16.59	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/9/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-84/172	
Location: Qala-I-Reg, 9th, Hirat, Afghanistan	Topotype: ASIA
Date collected: 08/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-09.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 27/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/6/2010	AFG10-06	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/9/2009	IRN09-09	639	624	0	97.65	2.35	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/15/2009	IRN09-15	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
4	A/IRN/26/2009	IRN09-26	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
5	A/IRN/67/2009	IRN09-67	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/10/2008	PAK08-10	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
7	A/PAK/12/2008	PAK08-12	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/7/2008	PAK08-07	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/9/2008	PAK08-09	639	623	0	97.50	2.50	ASIA	Iran-05 ^{AFG-07}
10	A/AFG/44/2007	AFG07-44	639	622	0	97.34	2.66	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	621	0	97.18	2.82	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	610	0	95.46	4.54	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	609	0	95.31	4.69	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	604	0	94.52	5.48	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	601	0	94.05	5.95	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	545	0	85.69	14.31	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	542	0	85.22	14.78	ASIA	Iran-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	534	0	83.96	16.04	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	533	0	83.81	16.19	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	531	0	83.10	16.90	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/10/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-84/173	
Location: Qala-I-Reg, 9th, Hirat, Afghanistan	Topotype: ASIA
Date collected: 08/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-10.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 27/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/44/2007	AFG07-44	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/9/2009	IRN09-09	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/6/2007	AFG07-06	639	614	0	96.09	3.91	ASIA	Iran-05 ^{AFG-07}
4	A/IRN/26/2009	IRN09-26	639	614	0	96.09	3.91	ASIA	Iran-05 ^{AFG-07}
5	A/BAR/2/2009	BAR09-02	639	613	0	95.93	4.07	ASIA	Iran-05 ^{AFG-07}
6	A/BAR/4/2009	BAR09-04	639	613	0	95.93	4.07	ASIA	Iran-05 ^{AFG-07}
7	A/IRN/15/2009	IRN09-15	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/20/2009	IRN09-20	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/4/2009	IRN09-04	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
10	A/IRN/67/2009	IRN09-67	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	614	0	96.09	3.91	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	605	0	94.68	5.32	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	597	0	93.43	6.57	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	535	0	84.12	15.88	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	533	0	83.81	16.19	ASIA	Iran-87
8	A/IRN/22/99 (EF208772)	IRN99-22	636	530	0	83.33	16.67	ASIA	Iran-99
9	A/TAI/2/97 (EF208778)	TAI97-02	636	526	0	82.70	17.30	ASIA	Thai-97
10	A/TAI/7/2003	TAI03-07	636	526	0	82.70	17.30	ASIA	Thai-03

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/15/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-89/183	
Location: Qarabagh, Kabul, Afghanistan	Topotype: ASIA
Date collected: 22/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-15.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 28/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/16/2010	AFG10-16	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/17/2010	AFG10-17	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/18/2010	AFG10-18	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/41/2009	AFG09-41	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/24/2010	PAK10-24	639	638	0	99.84	0.16	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/13/2008	PAK08-13	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/14/2009	AFG09-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
8	A/AFG/15/2009	AFG09-15	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
9	A/AFG/8/2009	AFG09-08	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/23/2010	PAK10-23	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	619	0	96.87	3.13	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	609	0	95.31	4.69	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	605	0	94.68	5.32	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	600	0	93.90	6.10	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	541	0	85.06	14.94	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	532	0	83.65	16.35	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	531	0	83.49	16.51	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	533	0	83.41	16.59	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/16/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-89/184	
Location: Qarabagh, Kabul, Afghanistan	Topotype: ASIA
Date collected: 22/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-16.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 27/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/15/2010	AFG10-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/17/2010	AFG10-17	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/18/2010	AFG10-18	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/41/2009	AFG09-41	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/24/2010	PAK10-24	639	638	0	99.84	0.16	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/13/2008	PAK08-13	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/14/2009	AFG09-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
8	A/AFG/15/2009	AFG09-15	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
9	A/AFG/8/2009	AFG09-08	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/23/2010	PAK10-23	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	619	0	96.87	3.13	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	609	0	95.31	4.69	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	605	0	94.68	5.32	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	600	0	93.90	6.10	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	541	0	85.06	14.94	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	532	0	83.65	16.35	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	531	0	83.49	16.51	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	533	0	83.41	16.59	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/17/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-89/185	
Location: Qarabagh, Kabul, Afghanistan	Topotype: ASIA
Date collected: 22/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-17.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 28/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/15/2010	AFG10-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/16/2010	AFG10-16	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/18/2010	AFG10-18	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/41/2009	AFG09-41	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/24/2010	PAK10-24	639	638	0	99.84	0.16	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/13/2008	PAK08-13	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/14/2009	AFG09-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
8	A/AFG/15/2009	AFG09-15	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
9	A/AFG/8/2009	AFG09-08	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/23/2010	PAK10-23	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	619	0	96.87	3.13	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	609	0	95.31	4.69	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	605	0	94.68	5.32	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	600	0	93.90	6.10	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	541	0	85.06	14.94	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	532	0	83.65	16.35	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	531	0	83.49	16.51	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	533	0	83.41	16.59	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 18/06/2010
WRLFMD Ref No: AFG/18/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00017	Checked by: D.P. King
Sender Ref: AA-89/186	
Location: Qarabagh, Kabul, Afghanistan	Topotype: ASIA
Date collected: 22/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 09/04/2010	Sequence filename: AFG10-18.SEQ
Date received for sequencing: 18/05/2010	Date sequence last updated: 28/05/2010
Species: Not Known	No. of Nt determined: 639
Material used: Epithelium suspension	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1303
	Min. no. of nt for comparison: 300
	Total turn-around time: 70 days
	Sequencing time: 31 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/AFG/15/2010	AFG10-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/16/2010	AFG10-16	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/17/2010	AFG10-17	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/41/2009	AFG09-41	639	639	0	100.00	0.00	ASIA	Iran-05 ^{AFG-07}
5	A/PAK/24/2010	PAK10-24	639	638	0	99.84	0.16	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/13/2008	PAK08-13	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/14/2009	AFG09-14	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
8	A/AFG/15/2009	AFG09-15	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
9	A/AFG/8/2009	AFG09-08	639	632	0	98.90	1.10	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/23/2010	PAK10-23	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
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	A/AFG/6/2007	AFG07-06	639	619	0	96.87	3.13	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/1/2005 (EF208769)	IRN05-01	639	609	0	95.31	4.69	ASIA	Iran-05
3	A/BAR/6/2008	BAR08-06	639	605	0	94.68	5.32	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	600	0	93.90	6.10	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	600	0	93.90	6.10	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	541	0	85.06	14.94	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
8	A/TAI/2/97 (EF208778)	TAI97-02	636	532	0	83.65	16.35	ASIA	Thai-97
9	A/IRN/22/99 (EF208772)	IRN99-22	636	531	0	83.49	16.51	ASIA	Iran-99
10	A22/IRQ/64 (AY593763)	IRQ64--A	639	533	0	83.41	16.59	ASIA	A ₂₂

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV A in Afghanistan in 2009-2010

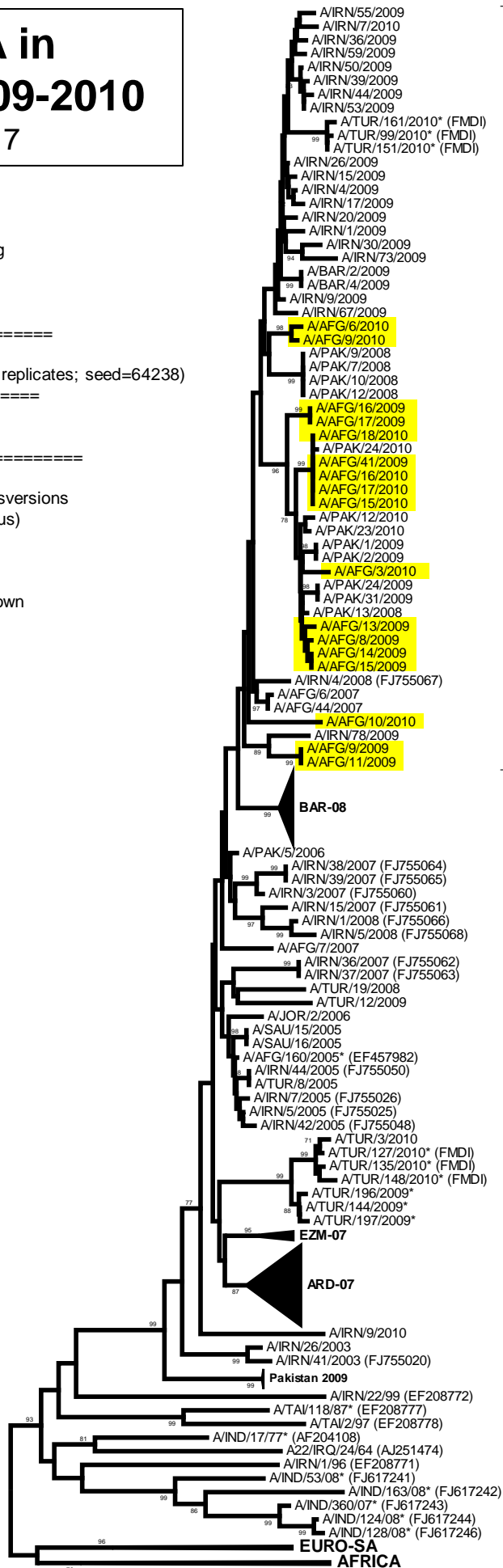
Batch: WRLFMD/2010/00017

Software: MEGA 4.0
 No. of Taxa : 204
 Data File : n:\evd\meg\db\fmvd\la\AFG2010a.meg
 Data Title : A Afghanistan 2009-2010
 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, 21 June 2010

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AFG-07

Iran-05

ASIA

0.02