

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

Genotyping Report

Date: 20 April 2010

FMDV type A

Country: Iran

Period: 2009-2010

No. of isolates: 3

BATCH: WRLFMD/2010/00011



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FAO World Reference Laboratory for FMD Genotyping Report

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

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Serotype: A	Report date: 16/04/2010
WRLFMD Ref No: IRN/78/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-104	
Location: Shiraz, Fars, Iran	Topotype: ASIA
Date collected: 04/11/2009	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN09-78.SEQ
Date received for sequencing: 22/03/2010	Date sequence last updated: 11/04/2010
Species: Not Known	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1268
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 29 days
	Sequencing time: 25 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/IRN/9/2009	IRN09-09	639	618	0	96.71	3.29	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/26/2009	IRN09-26	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/44/2007	AFG07-44	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
4	A/BAR/2/2009	BAR09-02	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
5	A/BAR/4/2009	BAR09-04	639	616	0	96.40	3.60	ASIA	Iran-05 ^{AFG-07}
6	A/AFG/6/2007	AFG07-06	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
7	A/IRN/15/2009	IRN09-15	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/20/2009	IRN09-20	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/4/2009	IRN09-04	639	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
10	A/PAK/5/2006	PAK06-05	639	614	0	96.09	3.91	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	615	0	96.24	3.76	ASIA	Iran-05 ^{AFG-07}
2	A/BAR/6/2008	BAR08-06	639	606	0	94.84	5.16	ASIA	Iran-05 ^{BAR-08}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	605	0	94.68	5.32	ASIA	Iran-05
4	A/TUR/1/2008	TUR08-01	639	599	0	93.74	6.26	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	596	0	93.27	6.73	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	539	0	84.75	15.25	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	538	0	84.59	15.41	ASIA	Iran-87
8	A/IRN/22/99 (EF208772)	IRN99-22	636	537	0	84.43	15.57	ASIA	Iran-99
9	A/TAI/2/97 (EF208778)	TAI97-02	636	536	0	84.28	15.72	ASIA	Thai-97
10	A/IRN/1/96 (EF208771)	IRN96-01	638	531	1	83.23	16.77	ASIA	Iran-96

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 16/04/2010
WRLFMD Ref No: IRN/7/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: IR 88-120	
Location: Golpqayeghan, Esfahan, Iran	Topotype: ASIA
Date collected: 20/01/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-07.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
Species: Not Known	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1268
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 29 days
	Sequencing time: 18 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/IRN/36/2009	IRN09-36	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/55/2009	IRN09-55	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/53/2009	IRN09-53	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
4	A/IRN/59/2009	IRN09-59	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
5	A/IRN/15/2009	IRN09-15	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/26/2009	IRN09-26	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
7	A/IRN/39/2009	IRN09-39	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/50/2009	IRN09-50	639	629	0	98.44	1.56	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/44/2009	IRN09-44	639	628	0	98.28	1.72	ASIA	Iran-05 ^{AFG-07}
10	A/IRN/4/2009	IRN09-04	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	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	603	0	94.37	5.63	ASIA	Iran-05 ^{BAR-08}
4	A/TUR/1/2008	TUR08-01	639	601	0	94.05	5.95	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/IRN/2/87 (EF208770)	IRN87-02	636	541	0	85.06	14.94	ASIA	Iran-87
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	532	0	83.65	16.35	ASIA	Thai-87
8	A22/IRQ/64 (AY593763)	IRQ64--A	639	534	0	83.57	16.43	ASIA	A ₂₂
9	A/IRN/22/99 (EF208772)	IRN99-22	636	531	0	83.49	16.51	ASIA	Iran-99
10	A/TAI/2/97 (EF208778)	TAI97-02	636	525	0	82.55	17.45	ASIA	Thai-97

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 16/04/2010
WRLFMD Ref No: IRN/9/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00011	Checked by: D.P. King
Sender Ref: ir 88-102	
Location: M Foladi, Esfahan, Esfahan, Iran	Topotype: ASIA
Date collected: 23/01/2010	Genotype/strain: Iran-05
Date received by WRLFMD: 18/03/2010	Sequence filename: IRN10-09.SEQ
Date received for sequencing: 29/03/2010	Date sequence last updated: 15/04/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1268
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 300
	Total turn-around time: 29 days
	Sequencing time: 18 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/5/2006	PAK06-05	639	599	0	93.74	6.26	ASIA	Iran-05 ^{AFG-07}
2	A/PAK/5/2006 (EF494488)	PAK06-AC	639	599	0	93.74	6.26	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/160/2005* (EF457982)	AFG05-AA	639	598	0	93.58	6.42	ASIA	Iran-05
4	A/IRN/3/2007 (FJ755060)	IRN07-03	639	598	0	93.58	6.42	ASIA	Iran-05
5	A/IRN/5/2005 (FJ755025)	IRN05-05	639	598	0	93.58	6.42	?	unnamed
6	A/IRN/43/2005 (FJ755049)	IRN05-43	639	597	0	93.43	6.57	?	unnamed
7	A/IRN/44/2005 (FJ755050)	IRN05-44	639	597	0	93.43	6.57	?	unnamed
8	A/IRN/7/2005 (FJ755026)	IRN05-07	639	597	0	93.43	6.57	?	unnamed
9	A/TUR/8/2005	TUR05-08	639	597	0	93.43	6.57	ASIA	Iran-05
10	A/AFG/183/2005* (EF457983)	AFG05-AB	639	596	0	93.27	6.73	ASIA	Iran-05
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/IRN/1/2005 (EF208769)	IRN05-01	639	596	0	93.27	6.73	ASIA	Iran-05
2	A/AFG/6/2007	AFG07-06	639	594	0	92.96	7.04	ASIA	Iran-05 ^{AFG-07}
3	A/TUR/1/2008	TUR08-01	639	593	0	92.80	7.20	ASIA	Iran-05 ^{ARD-07}
4	A/TUR/33/2008	TUR08-33	639	591	0	92.49	7.51	ASIA	Iran-05 ^{EZM-07}
5	A/BAR/6/2008	BAR08-06	639	584	0	91.39	8.61	ASIA	Iran-05 ^{BAR-08}
6	A/IRN/2/87 (EF208770)	IRN87-02	636	535	0	84.12	15.88	ASIA	Iran-87
7	A/IRN/22/99 (EF208772)	IRN99-22	636	533	0	83.81	16.19	ASIA	Iran-99
8	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	639	527	0	82.47	17.53	ASIA	A ₁₅
9	A/TAI/118/87* (EF208777)	TAI87-AD	636	524	0	82.39	17.61	ASIA	Thai-87
10	A/IRN/1/96 (EF208771)	IRN96-01	638	525	1	82.29	17.71	ASIA	Iran-96

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV A in Iran in 2009-2010

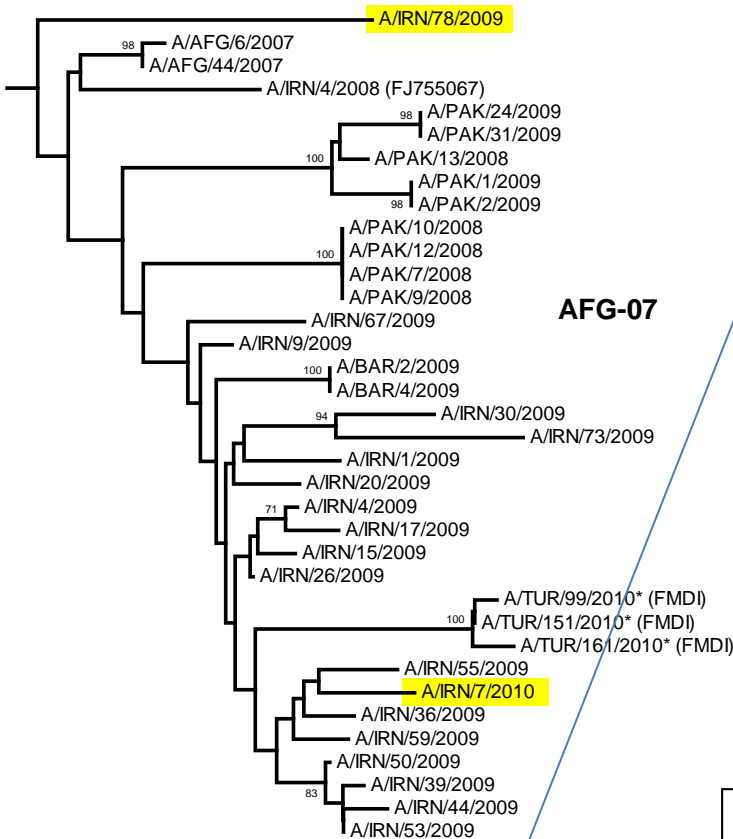
Batch: WRLFMD/2010/00011

Software: MEGA 4.0
 No. of Taxa : 182
 Data File : n:\levd\meg\db\fmdv\la\IRN2010a.meg
 Data Title : A Iran 2009-2010
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (500 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 = 500
 Only bootstrap values of 70% and above are shown

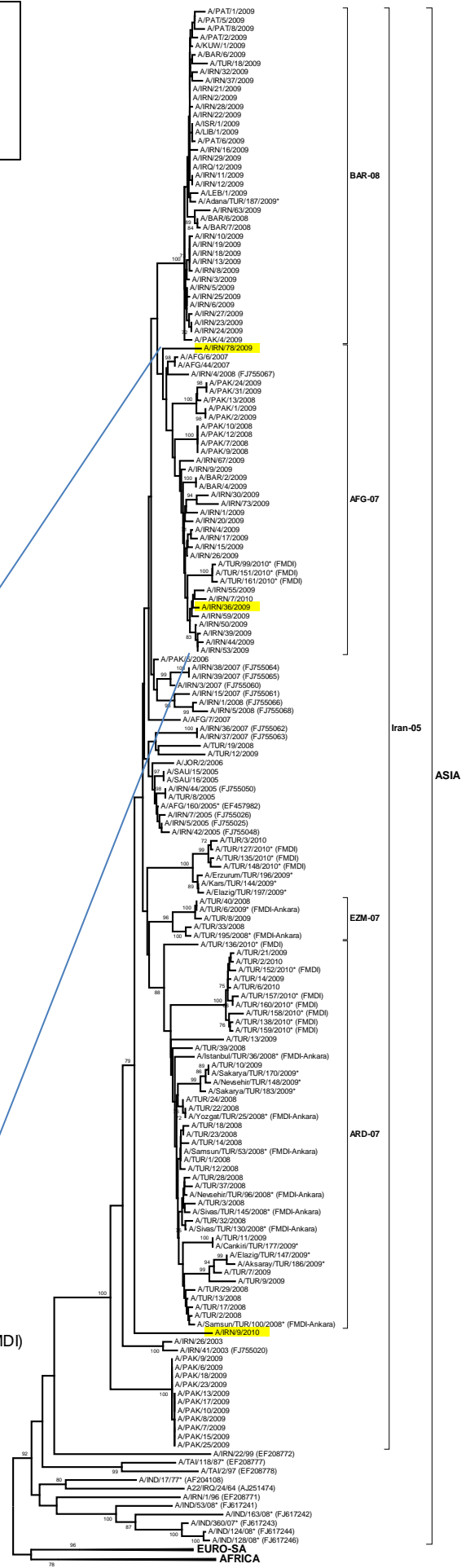
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N.J. Knowles, J. Wadsworth & F. Hamid, 20 April 2010

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0.005



0.02

BAR-08
 AFG-07
 Iran-05
 ASIA
 E2M-07
 ARD-07
 EURO-SA
 AFRICA