



INSTITUTE FOR ANIMAL HEALTH

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FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00032
Sender Details: [REDACTED]
Date Received: 29th September 2010
Country of Origin: Iran
Date Reported: 25th October 2010

Dear Dr. Abdollah,

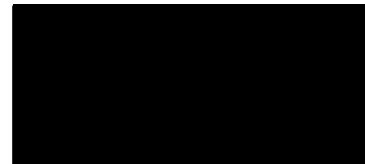
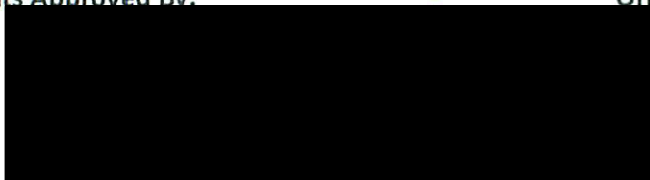
Re: Serotype A & O.

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: 26th October 2010



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: 25 October 2010

FMDV type A

Country: Iran

Period: 2010

No. of isolates: 3

BATCH: WRLFMD/2010/00032



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FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: A	Report date: 25/10/2010
WRLFMD Ref No: IRN/176/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00032	Checked by: V. Mioulet
Sender Ref: IR-89-155	
Location: Qom, Iran	Topotype: ASIA
Date collected: 02/08/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 29/09/2010	Sequence filename: IRN10176.SEQ
Date received for sequencing: 20/10/2010	Date sequence last updated: 22/10/2010
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: 1175
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 5 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/80/2010	IRN10-80	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/108/2010	IRN10108	639	631	0	98.75	1.25	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/6/2010	AFG10-06	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/9/2010	AFG10-09	639	630	0	98.59	1.41	ASIA	Iran-05 ^{AFG-07}
5	A/IRN/73/2010	IRN10-73	639	628	0	98.28	1.72	ASIA	Iran-05 ^{AFG-07}
6	A/PAK/10/2008	PAK08-10	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
7	A/PAK/12/2008	PAK08-12	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
8	A/PAK/7/2008	PAK08-07	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
9	A/PAK/9/2008	PAK08-09	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
10	A/IRN/15/2009	IRN09-15	639	618	0	96.71	3.29	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/BAR/6/2008	BAR08-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{BAR-08}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	603	0	94.37	5.63	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	594	0	92.96	7.04	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	529	0	83.18	16.82	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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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: A	Report date: 25/10/2010
WRLFMD Ref No: IRN/185/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00032	Checked by: V. Mioulet
Sender Ref: IR-89-161	
Location: Qom, Iran	Topotype: ASIA
Date collected: 28/08/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 29/09/2010	Sequence filename: IRN10185.SEQ
Date received for sequencing: 20/10/2010	Date sequence last updated: 22/10/2010
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: 1175
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 5 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/188/2010	IRN10188	639	637	0	99.69	0.31	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/177/2010	IRN10177	639	636	0	99.53	0.47	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/11/2009	AFG09-11	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/9/2009	AFG09-09	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/44/2007	AFG07-44	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/15/2009	IRN09-15	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
7	A/IRN/26/2009	IRN09-26	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/53/2009	IRN09-53	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/9/2009	IRN09-09	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
10	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	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	603	0	94.37	5.63	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	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	591	0	92.49	7.51	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/22/99 (EF208772)	IRN99-22	636	538	0	84.59	15.41	ASIA	Iran-99
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	533	0	83.81	16.19	ASIA	Thai-87
8	A/IRN/2/87 (EF208770)	IRN87-02	636	529	0	83.18	16.82	ASIA	Iran-87
9	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	639	529	0	82.79	17.21	ASIA	A ₁₅
10	A/TAI/2/97 (EF208778)	TAI97-02	636	524	0	82.39	17.61	ASIA	Thai-97

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: A	Report date: 25/10/2010
WRLFMD Ref No: IRN/188/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00032	Checked by: V. Mioulet
Sender Ref: IR-89-160	
Location: Tehran, Iran	Topotype: ASIA
Date collected: 12/09/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 29/09/2010	Sequence filename: IRN10188.SEQ
Date received for sequencing: 20/10/2010	Date sequence last updated: 22/10/2010
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: 1175
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 5 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/185/2010	IRN10185	639	637	0	99.69	0.31	ASIA	Iran-05 ^{AFG-07}
2	A/IRN/177/2010	IRN10177	639	636	0	99.53	0.47	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/11/2009	AFG09-11	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
4	A/AFG/9/2009	AFG09-09	639	620	0	97.03	2.97	ASIA	Iran-05 ^{AFG-07}
5	A/AFG/44/2007	AFG07-44	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/15/2009	IRN09-15	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
7	A/IRN/26/2009	IRN09-26	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
8	A/IRN/53/2009	IRN09-53	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/9/2009	IRN09-09	639	617	0	96.56	3.44	ASIA	Iran-05 ^{AFG-07}
10	A/AFG/6/2007	AFG07-06	639	616	0	96.40	3.60	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	603	0	94.37	5.63	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	594	0	92.96	7.04	ASIA	Iran-05 ^{ARD-07}
5	A/TUR/33/2008	TUR08-33	639	591	0	92.49	7.51	ASIA	Iran-05 ^{EZM-07}
6	A/IRN/22/99 (EF208772)	IRN99-22	636	536	0	84.28	15.72	ASIA	Iran-99
7	A/TAI/118/87* (EF208777)	TAI87-AD	636	533	0	83.81	16.19	ASIA	Thai-87
8	A/IRN/2/87 (EF208770)	IRN87-02	636	529	0	83.18	16.82	ASIA	Iran-87
9	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	639	529	0	82.79	17.21	ASIA	A ₁₅
10	A/TAI/2/97 (EF208778)	TAI97-02	636	524	0	82.39	17.61	ASIA	Thai-97

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV A in Iran in 2010

Batch: WRLFMD/2010/00032

Software: MEGA 4.0
 No. of Taxa : 201
 Data File : n:\evd\meg\db\fmv\la\IRN2010d.meg
 Data Title : A Iran 2010
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (1000 replicates; seed=64843)
 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, 25 October 2010

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