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FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00030

Sender Details:



Date Received: 31st August 2010
Country of Origin: Afghanistan
Date Reported: 5th November 2010

Dear Dr. Ehtisham Khan,

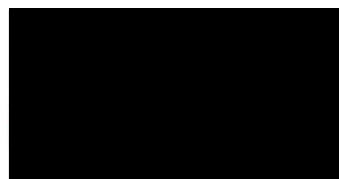
Re.: Serotype A

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: 12/11/10

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

Report Date for this Batch: 4 November 2010

FMDV type A

Country: Afghanistan

Period: 2010

No. of isolates: 1

BATCH: WRLFMD/2010/00030



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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: 04/11/2010
WRLFMD Ref No: AFG/47/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00030	Checked by: D.P. King
Sender Ref: 227	
Location: Ghorea, Center, Jawzjan, Afghanistan	Topotype: ASIA
Date collected: 03/05/2010	Genotype/strain: Iran-05 ^{AFG-07}
Date received by WRLFMD: 31/08/2010	Sequence filename: AFG10-47.SEQ
Date received for sequencing: 25/10/2010	Date sequence last updated: 02/11/2010
Species: Not Known	No. of Nt determined: 639
Material used: OS	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C612F/EUR-2B52R	Total no. of comparisons: 1176
	Min. no. of nt for comparison: 600
	Total turn-around time: 65 days
	Sequencing time: 10 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/134/2010	IRN10134	639	635	0	99.37	0.63	ASIA	Iran-05 ^{AFG-07}
2	A/AFG/10/2010	AFG10-10	639	633	0	99.06	0.94	ASIA	Iran-05 ^{AFG-07}
3	A/AFG/44/2007	AFG07-44	639	613	0	95.93	4.07	ASIA	Iran-05 ^{AFG-07}
4	A/BAR/2/2009	BAR09-02	639	613	0	95.93	4.07	ASIA	Iran-05 ^{AFG-07}
5	A/BAR/4/2009	BAR09-04	639	613	0	95.93	4.07	ASIA	Iran-05 ^{AFG-07}
6	A/IRN/9/2009	IRN09-09	639	613	0	95.93	4.07	ASIA	Iran-05 ^{AFG-07}
7	A/AFG/6/2007	AFG07-06	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
8	A/AFG/6/2010	AFG10-06	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
9	A/IRN/26/2009	IRN09-26	639	612	0	95.77	4.23	ASIA	Iran-05 ^{AFG-07}
10	A/IRN/4/2008 (FJ755067)	IRN08-04	639	611	0	95.62	4.38	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	612	0	95.77	4.23	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	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	595	0	93.11	6.89	ASIA	Iran-05 ^{EZM-07}
6	A/TAI/118/87* (EF208777)	TAI87-AD	636	536	0	84.28	15.72	ASIA	Thai-87
7	A/IRN/2/87 (EF208770)	IRN87-02	636	532	0	83.65	16.35	ASIA	Iran-87
8	A/IRN/22/99 (EF208772)	IRN99-22	636	529	0	83.18	16.82	ASIA	Iran-99
9	A22/IRQ/64 (AY593763)	IRQ64--A	639	530	0	82.94	17.06	ASIA	A ₂₂
10	A/TAI/2/97 (EF208778)	TAI97-02	636	527	0	82.86	17.14	ASIA	Thai-97

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v3.11

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Report on FMDV A in Afghanistan in 2010

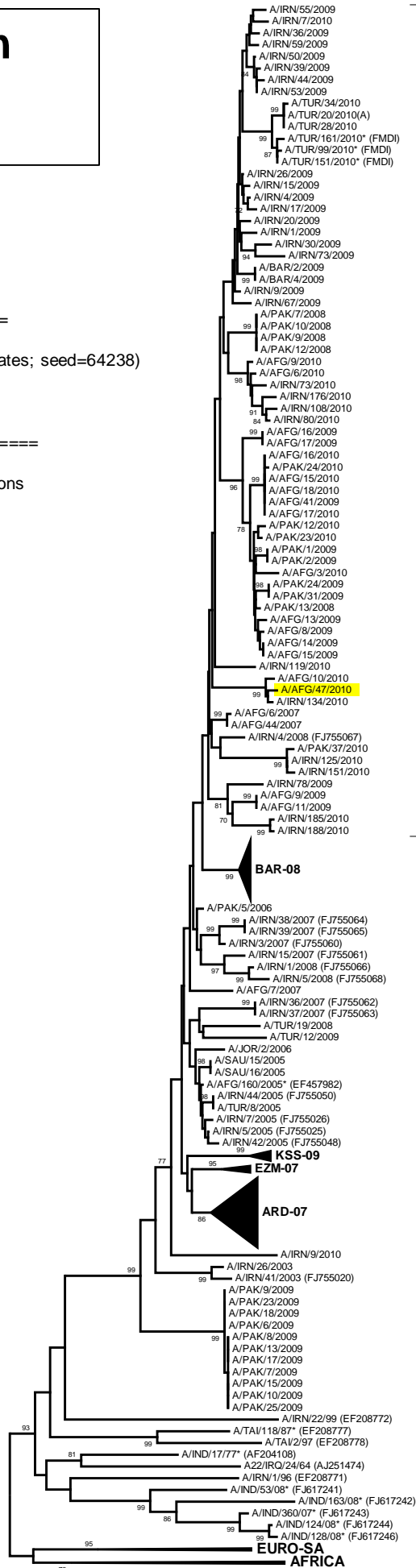
Batch: WRLFMD/2010/00030

Software: MEGA 4.0
 No. of Taxa : 220
 Data File : n:\evd\meg\db\fmvd\la\AFG2010b.meg
 Data Title : A Afghanistan 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, 04 November 2010

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AFG-07

Iran-05

ASIA

BAR-08

KSS-09

EZM-07

ARD-07

EURO-SA AFRICA

0.02

Summary of results on samples from Afghanistan (batch no. WRLFMD/2010/00030) received on 31/08/2010.

WRLFMD Ref. No.	Type*	VP1 seq	Topotype	Lineage	Sender Ref.	Material sent	Location
AFG/29/2010	O†	No	-	-	191	vesicular fluid	Gharomai, Center, Khost
AFG/30/2010	O	Yes	ME-SA	PanAsia-2	192	epithelium in RNAlater®	Maras Khail, Center, Khost
AFG/31/2010	O	Yes	ME-SA	PanAsia-2 ^{BAL-09}	194	epithelium in RNAlater®	Deh Dama, 7th district, Kabul
AFG/32/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	193	epithelium in RNAlater®	Chahar Qala, Qala-I Pakshak, 6th District, Kabul
AFG/33/2010	NVD	-	-	-	215	epithelium in RNAlater®	Mahee, Center, Khost
AFG/34/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	210	epithelium in RNAlater®	Qabghan, Rokha, Panjsher
AFG/35/2010	O	No	-	-	211	epithelium in RNAlater®	Qabghan, Rokha, Panjsher
AFG/36/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	212	epithelium in RNAlater®	Qabghan, Rokha, Panjsher
AFG/37/2010	O	No	-	-	213	epithelium in RNAlater®	Qabghan, Rokha, Panjsher
AFG/38/2010	O†	No	-	-	214	vesicular fluid	Qabghan, Rokha, Panjsher
AFG/39/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	216	epithelium in RNAlater®	Alaw Ddin, Nahea6, Kabul
AFG/40/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	217	epithelium in RNAlater®	Dewanbegi, Nahea 5, Kabul
AFG/41/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	218	epithelium in RNAlater®	Aqa Sarai, Kalakan, Kabul
AFG/42/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	219	epithelium in RNAlater®	Zor Abad, Nahea 11, Kabul
AFG/43/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	220	epithelium in RNAlater®	Ansari, Kalakan, Kabul
AFG/44/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	221	epithelium in RNAlater®	Zor Abad, Nahea 11, Kabul
AFG/45/2010	O	No	-	-	222	epithelium in RNAlater®	Noor Bakhtar, Center, Faryab
AFG/46/2010	O	No	-	-	226	epithelium in RNAlater®	Ghorea, Center, Jawzjan
AFG/47/2010	A	Yes	ASIA	Iran-05 ^{AFG07}	227	epithelium in RNAlater®	Ghorea, Center, Jawzjan
AFG/48/2010	A	No	-	-	237	epithelium in RNAlater®	Kohkana, Center, Faryab
AFG/49/2010	A	No	-	-	238	epithelium in RNAlater®	Kohkana, Center, Faryab
AFG/50/2010	O	No	-	-	232	epithelium in RNAlater®	Bedaki Sharif, Cnter, Faryab
AFG/51/2010	O+A	Yes†	ME-SA	PanAsia-2 ^{ANT-10}	233	epithelium in RNAlater®	Bedaki Sharif, Cnter, Faryab
AFG/52/2010	O	Yes	ME-SA	PanAsia-2 ^{BAL-09}	234	epithelium in RNAlater®	Bedaki Sharif, Cnter, Faryab
AFG/53/2010	O	Yes	ME-SA	PanAsia-2 ^{BAL-09}	235	epithelium in RNAlater®	Bedaki Sharif, Cnter, Faryab
AFG/54/2010	A	No	-	-	236	epithelium in RNAlater®	Bedaki Sharif, Cnter, Faryab
AFG/55/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	228	epithelium in RNAlater®	Cilinic, Center, Faryab
AFG/56/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	229	epithelium in RNAlater®	Cilinic, Center, Faryab
AFG/57/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	230	epithelium in RNAlater®	Cilinic, Center, Faryab
AFG/58/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	231	epithelium in RNAlater®	Cilinic, Center, Faryab
AFG/59/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	250	epithelium in RNAlater®	Dalkhaky, Center, Samangan
AFG/60/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	251	epithelium in RNAlater®	Dalkhaky, Center, Samangan
AFG/61/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	252	epithelium in RNAlater®	Dalkhaky, Center, Samangan
AFG/62/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	253	epithelium in RNAlater®	Dalkhaky, Center, Samangan

WRLFMD Ref. No.	Type*	VP1 seq	Topotype	Lineage	Sender Ref.	Material sent	Location
AFG/63/2010	O+A	No	-	-	254	epithelium in RNAlater®	Dalkhaky, Center, Samangan
AFG/64/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	254	epithelium in RNAlater®	Dalkhaky, Center, Samangan
AFG/65/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	245	epithelium in RNAlater®	Karte Khrasan, Center, Samangan
AFG/66/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	246	epithelium in RNAlater®	Bagh, Center, Samangan
AFG/67/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	256	epithelium in RNAlater®	Araghly, Center, Samangan
AFG/68/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	257	epithelium in RNAlater®	Araghly, Center, Samangan
AFG/69/2010	O	No	-	-	258	epithelium in RNAlater®	Araghly, Center, Samangan
AFG/70/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	259	epithelium in RNAlater®	Araghly, Center, Samangan
AFG/71/2010	O	No	-	-	247	epithelium in RNAlater®	Sengetak, Center, Samangan
AFG/72/2010	O	No	-	-	248	epithelium in RNAlater®	Sengetak, Center, Samangan
AFG/73/2010	O	No	-	-	249	epithelium in RNAlater®	Sengetak, Center, Samangan
AFG/74/2010	O	No	-	-	244	epithelium in RNAlater®	Khoaja Asmayal, Center, Samangan
AFG/75/2010	O	Yes	ME-SA	Unnamed	260	epithelium in RNAlater®	Chatam, Center, Badakhsha
AFG/76/2010	O	Yes	ME-SA	Unnamed	261	epithelium in RNAlater®	Chatam, Center, Badakhsha
AFG/77/2010	NVD	-	-	-	262	epithelium in RNAlater®	Geda, Center, Badakhsha
AFG/78/2010	O	No	-	-	263	epithelium in RNAlater®	Geda, Center, Badakhsha
AFG/79/2010	O	No	-	-	264	epithelium in RNAlater®	Geda, Center, Badakhsha
AFG/80/2010	O	No	-	-	265	epithelium in RNAlater®	Geda, Center, Badakhsha
AFG/81/2010	O	No	-	-	266	epithelium in RNAlater®	Geda, Center, Badakhsha
AFG/82/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	267	epithelium in RNAlater®	Geda, Center, Badakhsha
AFG/83/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	268	epithelium in RNAlater®	Abcity, Center, Badakhsha
AFG/84/2010	NVD	-	-	-	269	epithelium in RNAlater®	Abcity, Center, Badakhsha
AFG/85/2010	O	No	-	-	270	epithelium in RNAlater®	Baghshah, Center, Badakhsha
AFG/86/2010	O	No	-	-	271	epithelium in RNAlater®	Qalie Khater, District 10, Kabul
AFG/87/2010	O	No	-	-	195	epithelium in RNAlater®	Center, Center, Kapisa
AFG/88/2010	O	No	-	-	196	epithelium in RNAlater®	Center, Center, Kapisa
AFG/89/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	197	epithelium in RNAlater®	Hesa 2, Hesa 2, Kapisa
AFG/90/2010	A	No	-	-	198	epithelium in RNAlater®	Hesa 1, Hesa 1, Kapisa
AFG/91/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	199	epithelium in RNAlater®	Hesa 1, Hesa 1, Kapisa
AFG/92/2010	O	No	-	-	200	epithelium in RNAlater®	Center, Center, Kapisa
AFG/93/2010	O†	Yes	ME-SA	PanAsia-2 ^{BAL-09}	201	vesicular fluid	Hesa 1, Hesa 1, Kapisa
AFG/94/2010	A	No	-	-	202	epithelium in RNAlater®	Hesa 2, Hesa 2, Kapisa
AFG/95/2010	O	No	-	-	203	epithelium in RNAlater®	Hesa 1, Hesa 1, Kapisa
AFG/96/2010	O	Yes	ME-SA	Unnamed	204	epithelium in RNAlater®	Center, Center, Kapisa
AFG/97/2010	O	Yes	ME-SA	PanAsia-2 ^{BAL-09}	205	epithelium in RNAlater®	Center, Laghman
AFG/98/2010	NVD	-	-	-	206	vesicular fluid	Center, Laghman

WRLFMD Ref. No.	Type*	VP1 seq	Topotype	Lineage	Sender Ref.	Material sent	Location
AFG/99/2010	NVD	-	-	-	207	vesicular fluid	Center, Laghman
AFG/100/2010	NVD	-	-	-	208	swab in RNAlater®	Chimtal, Balkh
AFG/101/2010	NVD	-	-	-	209	swab in RNAlater®	Chimtal, Balkh
AFG/102/2010	O	No	-	-	223	epithelium in RNAlater®	Sarbalq, Nahea 9, Faryab
AFG/103/2010	O	No	-	-	224	epithelium in RNAlater®	Sarbalq, Nahea 9, Faryab
AFG/104/2010	O	Yes	ME-SA	PanAsia-2 ^{ANT-10}	225	epithelium in RNAlater®	Sarbalq, Nahea 9, Faryab
AFG/105/2010	A	No	-	-	239	epithelium in RNAlater®	Sadullah, Center, Parwan
AFG/106/2010	A	No	-	-	240	epithelium in RNAlater®	Charekar, Center, Parwan
AFG/107/2010	NVD	-	-	-	241	epithelium in RNAlater®	Bayan, Center, Parwan
AFG/108/2010	O	No	-	-	242	epithelium in RNAlater®	Alea, Center, Parwan
AFG/109/2010	O	Yes	ME-SA	PanAsia-2 ^{BAL-09}	243	epithelium in RNAlater®	Ahkhtche, Center, Parwan

*, determined by a typing PCR.

†, no virus was isolated in cell cultures.

‡, sequence data only determined for the type O component of the sample.

NVD, no virus (or FMDV genome) detected.