

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

Genotyping Report

Report Date for this Batch: 4 December 2014

FMDV type A

Country: Egypt

Period: 2014

No. of samples: 4

BATCH: WRLFMD/2014/000037



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: A	Report date: 04/12/2014
WRLFMD Ref No: EGY/42/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00037	Checked by: K. Bachanek-Bankowska
Sender Ref: SL/64, sample #4	
Location: Dina Farm, Giza, Egypt	Topotype: AFRICA
Date collected: 20/05/2012	Genotype/strain: G-IV
Date received by WRLFMD: 04/11/2014	Sequence filename: EGY12-42.SEQ
Date received for sequencing: 27/11/2014	Date sequence last updated: 02/12/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 21/11/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1997
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 30 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	A/EGY/30/2012	EGY12-30	639	639	0	100.00	0.00	AFRICA	G-IV
2	A/EGY-5-2012*	EGY12-AC	639	638	0	99.84	0.16	AFRICA	G-IV
3	A/EGY/1/2012	EGY12-01	639	631	0	98.75	1.25	AFRICA	G-IV
4	A/EGY-B-2012*	EGY12-AB	639	631	0	98.75	1.25	AFRICA	G-IV
5	A/SUD/13/2011	SUD11-13	639	624	0	97.65	2.35	AFRICA	G-IV
6	A/EGY/18/2012	EGY12-18	639	623	0	97.50	2.50	AFRICA	G-IV
7	A/EGY/20/2012	EGY12-20	639	623	0	97.50	2.50	AFRICA	G-IV
8	A/SUD/12/2011	SUD11A12	639	623	0	97.50	2.50	AFRICA	G-IV
9	A/SUD/7/2011	SUD11A07	639	623	0	97.5	2.5	AFRICA	G-IV
10	A/SUD/6/2011	SUD11-06	639	622	0	97.34	2.66	AFRICA	G-IV
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/SUD/3/77 (GU566064)	SUD77-03	639	544	0	85.13	14.87	AFRICA	G-IV
2	A/GHA/16/73 (KF561698)	GHA73-16	636	530	0	83.33	16.67	AFRICA	G-VI
3	A/KEN/42/66 (K18/66)(KF561699)	KEN66-42	639	528	0	82.63	17.37	AFRICA	G-I
4	A21/Lumbwa/KEN/64 (AY593761)	KEN64-AA	639	527	0	82.47	17.53	AFRICA	G-III
5	A/NGR/2/73 (KF561704)	NGR73-02	639	524	0	82.00	18.00	AFRICA	G-V
6	A/UGA/13/66 (KF561705)	UGA66-13	639	524	0	82.00	18.00	AFRICA	G-VII
7	A12/UK/119/32 (M10975)	UKG32119	639	512	0	80.13	19.87	EURO-SA	A ₁₂
8	A/EGY/1/72 (EF208756)	EGY72-01	639	511	0	79.97	20.03	AFRICA	G-II
9	A5/Allier/FRA/60 (AY593780)	FRA60--F	636	504	0	79.25	20.75	EURO-SA	A ₅
10	A24/Cruzeiro/BRA/55 (AY593768)	BRA55--H	639	505	0	79.03	20.97	EURO-SA	A24

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 04/12/2014
WRLFMD Ref No: EGY/30/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00037	Checked by: K. Bachanek-Bankowska
Sender Ref: RV/33A, sample #1	
Location: Horia, Abohamad, Sharkia, Egypt	Topotype: ASIA
Date collected: 20/03/2013	Genotype/strain: Iran-05 ^{BAR-08}
Date received by WRLFMD: 04/11/2014	Sequence filename: EGY13-30.SEQ
Date received for sequencing: 01/12/2014	Date sequence last updated: 02/12/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 (2nd attempt) 27/11/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1997
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 30 days
	Sequencing time: 3 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/EGY/11/2013	EGY13-11	639	639	0	100.00	0.00	ASIA	Iran-05 ^{BAR-08}
2	A/EGY/12/2013	EGY13-12	639	639	0	100.00	0.00	ASIA	Iran-05 ^{BAR-08}
3	A/EGY/15/2013	EGY13-15	639	639	0	100.00	0.00	ASIA	Iran-05 ^{BAR-08}
4	A/EGY/21/2013	EGY13-21	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
5	A/EGY/31/2013	EGY13-31	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
6	A/PAT/10/2013	PAT13-10	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
7	A/PAT/11/2013	PAT13-11	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
8	A/PAT/12/2013	PAT13-12	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
9	A/EGY/13/2013	EGY13-13	639	637	0	99.69	0.31	ASIA	Iran-05 ^{BAR-08}
10	A/EGY/14/2013	EGY13-14	639	637	0	99.69	0.31	ASIA	Iran-05 ^{BAR-08}
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/BAR/6/2008 (FJ755010)	BAR08-06	639	611	0	95.62	4.38	ASIA	Iran-05 ^{BAR-08}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	602	0	94.21	5.79	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	601	0	94.05	5.95	ASIA	Iran-05
4	A/IRN/78/2009	IRN09-78	639	598	0	93.58	6.42	ASIA	Iran-05 ^{FAR-09}
5	A/TUR/1/2008 (FJ755133)	TUR08-01	639	596	0	93.27	6.73	ASIA	Iran-05 ^{ARD-07}
6	A/TUR/33/2008 (FJ755155)	TUR08-33	639	596	0	93.27	6.73	ASIA	Iran-05 ^{EZM-07}
7	A/AFG/10/2010	AFG10-10	639	595	0	93.11	6.89	ASIA	Iran-05 ^{HER-10}
8	A/IRN/1/2011	IRN11-01	639	593	0	92.80	7.20	ASIA	Iran-05 ^{FAR-11}
9	A/IRN/15/2012	IRN12-15	639	593	0	92.80	7.20	ASIA	Iran-05 ^{SIS-12}
10	A/IRN/125/2010	IRN10125	639	591	0	92.49	7.51	ASIA	Iran-05 ^{SIS-10}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: EGY/31/2013 Batch No: WRLFMD/2014/00037 Sender Ref: RV/33B, sample #2 Location: Horia, Abohamad, Sharkia, Egypt Date collected: 20/03/2013 Date received by WRLFMD: 04/11/2014 Date received for sequencing: 01/12/2014 Species: Cattle Material used: BTy2 (2nd attempt) 27/11/2014 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 04/12/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Iran-05 ^{BAR-08} Sequence filename: EGY13-31.SEQ Date sequence last updated: 02/12/2014 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 1997 Min. no. of nt for comparison: 600 Total turn-around time: 30 days Sequencing time: 3 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/EGY/11/2013	EGY13-11	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
2	A/EGY/12/2013	EGY13-12	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
3	A/EGY/15/2013	EGY13-15	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
4	A/EGY/30/2013	EGY13-30	639	638	0	99.84	0.16	ASIA	Iran-05 ^{BAR-08}
5	A/EGY/21/2013	EGY13-21	639	637	0	99.69	0.31	ASIA	Iran-05 ^{BAR-08}
6	A/PAT/10/2013	PAT13-10	639	637	0	99.69	0.31	ASIA	Iran-05 ^{BAR-08}
7	A/PAT/11/2013	PAT13-11	639	637	0	99.69	0.31	ASIA	Iran-05 ^{BAR-08}
8	A/PAT/12/2013	PAT13-12	639	637	0	99.69	0.31	ASIA	Iran-05 ^{BAR-08}
9	A/EGY/13/2013	EGY13-13	639	636	0	99.53	0.47	ASIA	Iran-05 ^{BAR-08}
10	A/EGY/14/2013	EGY13-14	639	636	0	99.53	0.47	ASIA	Iran-05 ^{BAR-08}
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/BAR/6/2008 (FJ755010)	BAR08-06	639	610	0	95.46	4.54	ASIA	Iran-05 ^{BAR-08}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	601	0	94.05	5.95	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	600	0	93.90	6.10	ASIA	Iran-05
4	A/IRN/78/2009	IRN09-78	639	597	0	93.43	6.57	ASIA	Iran-05 ^{FAR-09}
5	A/TUR/1/2008 (FJ755133)	TUR08-01	639	595	0	93.11	6.89	ASIA	Iran-05 ^{ARD-07}
6	A/TUR/33/2008 (FJ755155)	TUR08-33	639	595	0	93.11	6.89	ASIA	Iran-05 ^{EZM-07}
7	A/AFG/10/2010	AFG10-10	639	594	0	92.96	7.04	ASIA	Iran-05 ^{HER-10}
8	A/IRN/1/2011	IRN11-01	639	592	0	92.64	7.36	ASIA	Iran-05 ^{FAR-11}
9	A/IRN/15/2012	IRN12-15	639	592	0	92.64	7.36	ASIA	Iran-05 ^{SIS-12}
10	A/IRN/125/2010	IRN10125	639	590	0	92.33	7.67	ASIA	Iran-05 ^{SIS-10}

nt, nucleotides

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Serotype: A	Report date: 04/12/2014
WRLFMD Ref No: EGY/31/2014	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00037	Checked by: K. Bachanek-Bankowska
Sender Ref: RL/1536, sample #3	
Location: Samasta, Banisuif, Egypt	Topotype: ASIA
Date collected: 28/05/2014	Genotype/strain: Iran-05 ^{BAR-08}
Date received by WRLFMD: 04/11/2014	Sequence filename: EGY14-31.SEQ
Date received for sequencing: 27/11/2104	Date sequence last updated: 02/12/2014
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 21/11/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: A-1C562F/EUR-2B52R	Total no. of comparisons: 1997
A-1C612F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 30 days
	Sequencing time: -32865 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/EGY/17/2013	EGY13-17	639	625	0	97.81	2.19	ASIA	Iran-05 ^{BAR-08}
2	A/EGY/11/2013	EGY13-11	639	622	0	97.34	2.66	ASIA	Iran-05 ^{BAR-08}
3	A/EGY/12/2013	EGY13-12	639	622	0	97.34	2.66	ASIA	Iran-05 ^{BAR-08}
4	A/EGY/15/2013	EGY13-15	639	622	0	97.34	2.66	ASIA	Iran-05 ^{BAR-08}
5	A/EGY/30/2013	EGY13-30	639	622	0	97.34	2.66	ASIA	Iran-05 ^{BAR-08}
6	A/EGY/6/2013	EGY13-06	639	622	0	97.34	2.66	ASIA	Iran-05 ^{BAR-08}
7	A/EGY/21/2013	EGY13-21	639	621	0	97.18	2.82	ASIA	Iran-05 ^{BAR-08}
8	A/EGY/31/2013	EGY13-31	639	621	0	97.18	2.82	ASIA	Iran-05 ^{BAR-08}
9	A/EGY/5/2013	EGY13-05	639	621	0	97.18	2.82	ASIA	Iran-05 ^{BAR-08}
10	A/PAT/10/2013	PAT13-10	639	621	0	97.18	2.82	ASIA	Iran-05 ^{BAR-08}
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/BAR/6/2008 (FJ755010)	BAR08-06	639	603	0	94.37	5.63	ASIA	Iran-05 ^{BAR-08}
2	A/AFG/6/2007 (FJ755007)	AFG07-06	639	596	0	93.27	6.73	ASIA	Iran-05 ^{AFG-07}
3	A/IRN/1/2005 (EF208769)	IRN05-01	639	593	0	92.80	7.20	ASIA	Iran-05
4	A/IRN/78/2009	IRN09-78	639	592	0	92.64	7.36	ASIA	Iran-05 ^{FAR-09}
5	A/AFG/10/2010	AFG10-10	639	591	0	92.49	7.51	ASIA	Iran-05 ^{HER-10}
6	A/TUR/1/2008 (FJ755133)	TUR08-01	639	591	0	92.49	7.51	ASIA	Iran-05 ^{ARD-07}
7	A/TUR/33/2008 (FJ755155)	TUR08-33	639	590	0	92.33	7.67	ASIA	Iran-05 ^{EZM-07}
8	A/IRN/1/2011	IRN11-01	639	589	0	92.18	7.82	ASIA	Iran-05 ^{FAR-11}
9	A/IRN/15/2012	IRN12-15	639	589	0	92.18	7.82	ASIA	Iran-05 ^{SIS-12}
10	A/IRN/125/2010	IRN10125	639	585	0	91.55	8.45	ASIA	Iran-05 ^{SIS-10}

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV A in Egypt in 2012-2014

Batch: WRLFMD/2014/00037

◆ indicates viruses in this batch

Software: MEGA 6.06

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 : 639

No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

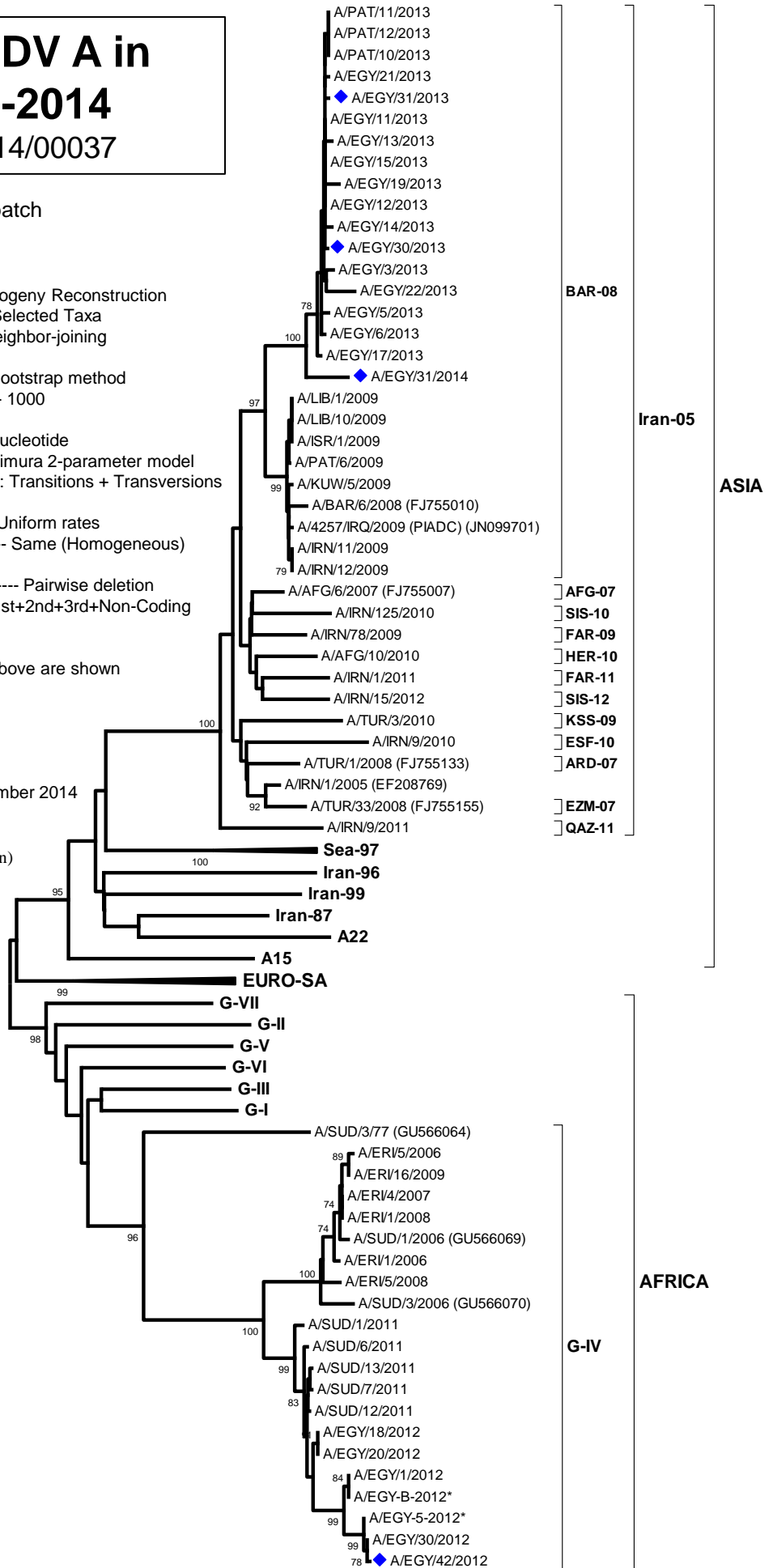
*, not a WRLFMD Ref. No.

N.J. Knowles, J. Wadsworth &

K. Bachanek-Bankowska,, 04 December 2014

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