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To:

Fax Number:

To:

Email:

From:

Date: 7th April 2009

Subject: A Sequencing Report

No. Of Pages: 10

FAX

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Thank you.

Dear [REDACTED]

Virus isolates: A EGY/3/2009, A EGY/4/2009, A EGY7/2009, A EGY9/2009, A EGY12/2009, A EGY13/2009, A EGY15/2009 and A EGY16/2009

Sequencing work has now been completed in respect of the above virus isolates received at IAH Pirbright on 19th of March 2009 and the details are as attached. Please note all of our phylogenetic trees can be accessed via the internet at:

http://www.iah.bbsrc.ac.uk/primary_index/current_research/virus/Picornaviridae/Aphthovirus/index.html

Yours sincerely [REDACTED]

Head: World Reference Laboratory for FMD [REDACTED]

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The Institute is sponsored by the Biotechnology and Biological Sciences Research Council. An Associated Institute of the University of Reading.

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Molecular Epidemiology Report Form

IAH-P-EP-MEG-FOR-005-1

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<p>Serotype: A WRL Ref No: EGY/3/2009 Sender Ref: VSVRI No. 6 Date collected: 01/01/2009 Date received by WRLFMD: 19/03/2009 Date received for sequencing: 24/03/2009 Species: Cattle Material used: BTyI Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639</p>	<p>Report date: 06/04/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: AFRICA Genotype/strain: none designated Sequence filename: EGY09-03.SEQ Date sequence last updated: 26/03/2009 Total no. of comparisons: 1076 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 13 days</p>																																																																																								
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Serotype: A WRL Ref No: EGY/4/2009 Sender Ref: VSVRI No. 7 Date collected: 01/01/2009 Date received by WRLFMD: 19/03/2009 Date received for sequencing: 31/03/2009 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O1-1C244F/EUR-2B52R; O1-1C272F/EUR-2B52R* No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 06/04/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: AFRICA Genotype/strain: none designated Sequence filename: EGY09-04.SEQ Date sequence last updated: 06/04/2009 Total no. of comparisons: 1076 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 6 days
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Comments: *, type O primers used in error, but were able to amplify a type A product.

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	A/EGY/15/2009	EGY09-15	639	639	0	100	0
2	A/EGY/13/2009	EGY09-13	639	637	0	99.69	0.31
3	A/EGY/12/2009	EGY09-12	639	636	0	99.53	0.47
4	A/EGY/16/2009	EGY09-16	639	636	0	99.53	0.47
5	A/EGY/3/2009	EGY09-03	639	636	0	99.53	0.47
6	A/EGY/7/2009	EGY09-07	639	636	0	99.53	0.47
7	A/EGY/9/2009	EGY09-09	639	636	0	99.53	0.47
8	A/EGY/1/2006 (EF208757)	EGY06-01	639	612	0	95.77	4.23
9	A/EGY/2006 (EF159977)	EGY06-AB	639	612	0	95.77	4.23
10	A/EGY/4/2006 (EF208760)	EGY06-04	639	612	0	95.77	4.23

Relationships to Reference Virus Strains

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3	A/IRN/2/87 (EF208770)	IRN87-02	636	507	0	79.72	20.28
4	A22/IRQ/24/64 (AJ251474)	IRQ64-24	639	509	0	79.66	20.34
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7	A/IRN/1/96 (EF208771)	IRN96-01	638	504	1	79	21
8	A/SAU/23/86 (EU414536)	SAU86-23	639	498	0	77.93	22.07
9	A/IRN/1/2005 (EF208769)	IRN05-01	639	497	0	77.78	22.22
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nt, nucleotides

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Serotype: A WRL Ref No: EGY/7/2009 Sender Ref: AHRI 4 Date collected: 26/01/2009 Date received by WRLFMD: 19/03/2009 Date received for sequencing: 24/03/2009 Species: Cattle Material used: BTy1 Region sequenced: VPI RT-PCR primers: A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 06/04/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: AFRICA Genotype/strain: none designated Sequence filename: EGY09-07.SEQ Date sequence last updated: 26/03/2009 Total no. of comparisons: 1076 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 13 days																																																																																								
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Serotype: A WRL Ref No: EGY/9/2009 Sender Ref: AHRI 5 Date collected: 08/02/2009 Date received by WRLFMD: 19/03/2009 Date received for sequencing: 24/03/2009 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 06/04/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: AFRICA Genotype/strain: none designated Sequence filename: EGY09-09.SEQ Date sequence last updated: 26/03/2009 Total no. of comparisons: 1076 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 13 days																																																																																								
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Serotype: A WRL RefNo: EGY/12/2009 Sender Ref: GOVS Ves. Fluid Date collected: 12/02/2009 Date received by WRLFMD: 19/03/2009 Date received for sequencing: 31/03/2009 Species: Not Given Material used: BTy2 Region sequenced: VPI RT-PCR primers: A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 06/04/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: AFRICA Genotype/strain: none designated Sequence filename: EGY09-12.SEQ Date sequence last updated: 02/04/2009 Total no. of comparisons: 1076 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 6 days
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Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	A/EGY/16/2009	EGY09-16	639	639	0	100	0
2	A/EGY/3/2009	EGY09-03	639	639	0	100	0
3	A/EGY/7/2009	EGY09-07	639	639	0	100	0
4	A/EGY/9/2009	EGY09-09	639	639	0	100	0
5	A/EGY/13/2009	EGY09-13	639	638	0	99.84	0.16
6	A/EGY/15/2009	EGY09-15	639	636	0	99.53	0.47
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nt, nucleotides
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<p>Serotype: A WRL RefNo: EGY/13/2009 Sender Ref: GOVS EPI Date collected: 12/02/2009 Date received by WRLFMD: 19/03/2009 Date received for sequencing: 31/03/2009 Species: Not Given Material used: BTy1 Region sequenced: VPI RT-PCR primers: A-1C562F/EUR-2B52R; A-1C612F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639</p>	<p>Report date: 06/04/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: AFRICA Genotype/strain: none designated Sequence filename: EGY09-13.SEQ Date sequence last updated: 02/04/2009 Total no. of comparisons: 1076 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 6 days</p>																																																																																								
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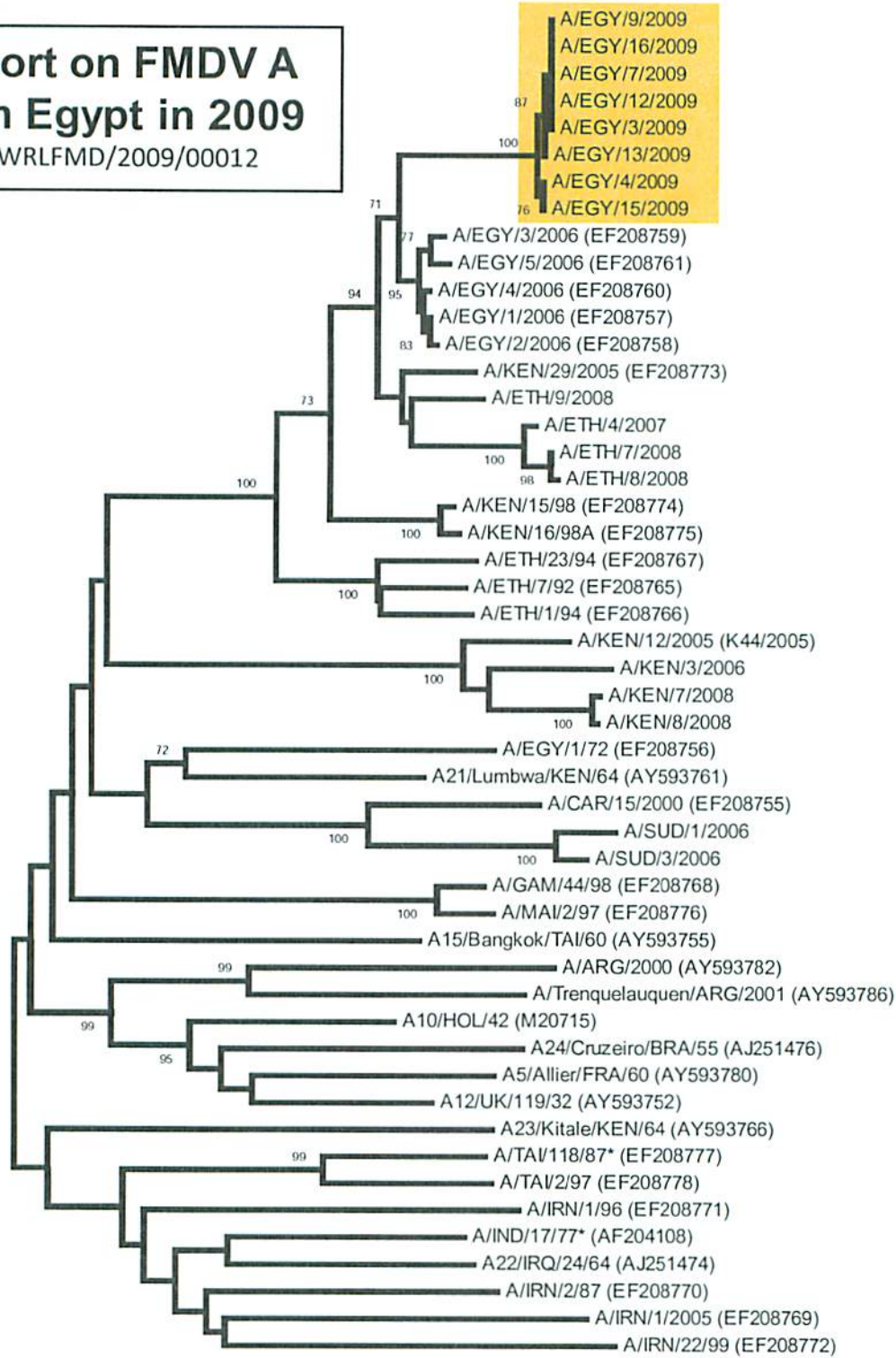
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Report on FMDV A from Egypt in 2009

Batch: WRLFMD/2009/00012



0.02

Software: MEGA 4.0
 No. of Taxa : 50
 Data File : n:\evd\meg\ldb\fm\egy\al\EGY2009b.meg
 Data Title : A Egypt 2009
 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

N.J. Knowles & J. Wadsworth, 6 April 2009

*, not a WRLFMD Ref. No.