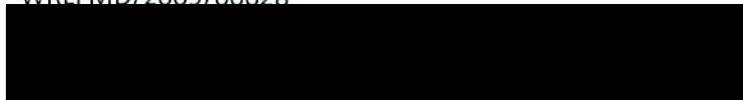


INSTITUTE FOR ANIMAL HEALTH
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Pirbright,
Surrey,
GU24 0NF
Intn Tel: 00 44 1483 232441
Tel: 01483 232441 Fax: 01483 232621

FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2009/00028

Sender Details:



Date Received: 28th May 2009
Country of Origin: Egypt
Date Reported: 30th June 2009

Results Approved By:

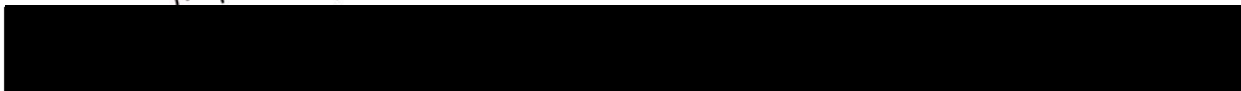


Official Stamp:
Institute for Animal Health
Pirbright Laboratory

09 JUL 2009

Date: 9/7/2009

Division of Epidemiology



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.byrom@bbsrc.ac.uk)

Molecular Epidemiology Report Form

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Serotype: O WRL Ref No: EGY/17/2009 Sender Ref: 3 Date collected: 13/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VPI RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-17.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/18/2009	EGY09-18	639	639	0	100	0
2	O/EGY/19/2009	EGY09-19	639	639	0	100	0
3	O/EGY/20/2009	EGY09-20	639	639	0	100	0
4	O/EGY/21/2009	EGY09-21	639	639	0	100	0
5	O/EGY/22/2009	EGY09-22	639	639	0	100	0
6	O/EGY/23/2009	EGY09-23	639	639	0	100	0
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

Molecular Epidemiology Report Form

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Page 1 of 1

Serotype: O WRL RefNo: EGY/18/2009 Sender Ref: 3-P1 Date collected: 13/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-18.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/19/2009	EGY09-19	639	639	0	100	0
3	O/EGY/20/2009	EGY09-20	639	639	0	100	0
4	O/EGY/21/2009	EGY09-21	639	639	0	100	0
5	O/EGY/22/2009	EGY09-22	639	639	0	100	0
6	O/EGY/23/2009	EGY09-23	639	639	0	100	0
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69-E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75-A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67-A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRL RefNo: EGY/19/2009 Sender Ref: 4 Date collected: 13/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-19.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/20/2009	EGY09-20	639	639	0	100	0
4	O/EGY/21/2009	EGY09-21	639	639	0	100	0
5	O/EGY/22/2009	EGY09-22	639	639	0	100	0
6	O/EGY/23/2009	EGY09-23	639	639	0	100	0
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRL RefNo: EGY/20/2009 Sender Ref: 4-PI Date collected: 13/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-20.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/21/2009	EGY09-21	639	639	0	100	0
5	O/EGY/22/2009	EGY09-22	639	639	0	100	0
6	O/EGY/23/2009	EGY09-23	639	639	0	100	0
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides
 *, not a WRLFMD reference number

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Serotype: O WRL Ref No: EGY/21/2009 Sender Ref: 5 Date collected: 13/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-21.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/22/2009	EGY09-22	639	639	0	100	0
6	O/EGY/23/2009	EGY09-23	639	639	0	100	0
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides
 *, not a WRLFMD reference number

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<p>Serotype: O WRL Ref No: EGY/22/2009 Sender Ref: 5-P1 Date collected: 13/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639</p>	<p>Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-22.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 days</p>																																																																																								
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pos.</th> <th>Virus name</th> <th>Filename</th> <th>No. nt compared</th> <th>No. nt matched</th> <th>No. of ambiguities</th> <th>% Identity</th> <th>% Difference</th> </tr> </thead> <tbody> <tr><td>1</td><td>O/EGY/17/2009</td><td>EGY09-17</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>2</td><td>O/EGY/18/2009</td><td>EGY09-18</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>3</td><td>O/EGY/19/2009</td><td>EGY09-19</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>4</td><td>O/EGY/20/2009</td><td>EGY09-20</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>5</td><td>O/EGY/21/2009</td><td>EGY09-21</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>6</td><td>O/EGY/23/2009</td><td>EGY09-23</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>7</td><td>O/EGY/24/2009</td><td>EGY09-24</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>8</td><td>O/EGY/25/2009</td><td>EGY09-25</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>9</td><td>O/EGY/26/2009</td><td>EGY09-26</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> <tr><td>10</td><td>O/EGY/27/2009</td><td>EGY09-27</td><td>639</td><td>639</td><td>0</td><td>100</td><td>0</td></tr> </tbody> </table>		Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference	1	O/EGY/17/2009	EGY09-17	639	639	0	100	0	2	O/EGY/18/2009	EGY09-18	639	639	0	100	0	3	O/EGY/19/2009	EGY09-19	639	639	0	100	0	4	O/EGY/20/2009	EGY09-20	639	639	0	100	0	5	O/EGY/21/2009	EGY09-21	639	639	0	100	0	6	O/EGY/23/2009	EGY09-23	639	639	0	100	0	7	O/EGY/24/2009	EGY09-24	639	639	0	100	0	8	O/EGY/25/2009	EGY09-25	639	639	0	100	0	9	O/EGY/26/2009	EGY09-26	639	639	0	100	0	10	O/EGY/27/2009	EGY09-27	639	639	0	100	0
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1	O/EGY/17/2009	EGY09-17	639	639	0	100	0																																																																																		
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3	O/EGY/19/2009	EGY09-19	639	639	0	100	0																																																																																		
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6	O/EGY/23/2009	EGY09-23	639	639	0	100	0																																																																																		
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0																																																																																		
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0																																																																																		
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0																																																																																		
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0																																																																																		
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pos.</th> <th>Virus name</th> <th>Filename</th> <th>No. nt compared</th> <th>No. nt matched</th> <th>No. of ambiguities</th> <th>% Identity</th> <th>% Difference</th> </tr> </thead> <tbody> <tr><td>1</td><td>O1/Manisa/TUR/69 (AJ251477)</td><td>TUR69--E</td><td>639</td><td>594</td><td>0</td><td>92.96</td><td>7.04</td></tr> <tr><td>2</td><td>O/IND/R2/75* [AF204276]</td><td>IND75--A</td><td>639</td><td>577</td><td>0</td><td>90.3</td><td>9.7</td></tr> <tr><td>3</td><td>O/IND/53/79 [AF292107]</td><td>IND79A53</td><td>639</td><td>574</td><td>0</td><td>89.83</td><td>10.17</td></tr> <tr><td>4</td><td>O/TAW/2/99 (AJ294927)</td><td>TAW99-02</td><td>639</td><td>567</td><td>0</td><td>88.73</td><td>11.27</td></tr> <tr><td>5</td><td>O/ISR/2/88 (DQ164899)</td><td>ISR88-02</td><td>639</td><td>560</td><td>0</td><td>87.64</td><td>12.36</td></tr> <tr><td>6</td><td>O/MOR/1/91</td><td>MOR91-01</td><td>639</td><td>558</td><td>0</td><td>87.32</td><td>12.68</td></tr> <tr><td>7</td><td>O/TAI/189/87* [TRRL]</td><td>TAI87-AC</td><td>639</td><td>548</td><td>0</td><td>85.76</td><td>14.24</td></tr> <tr><td>8</td><td>O/HKN/6/83 (AJ294919)</td><td>HKN83-06</td><td>637</td><td>515</td><td>2</td><td>80.85</td><td>19.15</td></tr> <tr><td>9</td><td>O/PHI/5/95 (DQ164946)</td><td>PHI95-05</td><td>639</td><td>516</td><td>0</td><td>80.75</td><td>19.25</td></tr> <tr><td>10</td><td>O1/BFS 1860/UK/67 (J02185)</td><td>UKG67--A</td><td>639</td><td>516</td><td>0</td><td>80.75</td><td>19.25</td></tr> </tbody> </table>		Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference	1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04	2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7	3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17	4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27	5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36	6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68	7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24	8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15	9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25	10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
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Serotype: O WRL RefNo: EGY/23/2009 Sender Ref: 6 Date collected: 19/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTyI Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-23.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 days						
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0
7	O/EGY/24/2009	EGY09-24	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25
nt, nucleotides *, not a WRLFMD reference number							

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Serotype: O WRL RefNo: EGY/24/2009 Sender Ref: 6-P1 Date collected: 19/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-24.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0
7	O/EGY/23/2009	EGY09-23	639	639	0	100	0
8	O/EGY/25/2009	EGY09-25	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRL Ref No: EGY/25/2009 Sender Ref: 7 Date collected: 19/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTyl Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-25.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 days						
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0
7	O/EGY/23/2009	EGY09-23	639	639	0	100	0
8	O/EGY/24/2009	EGY09-24	639	639	0	100	0
9	O/EGY/26/2009	EGY09-26	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAWI/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25
nt, nucleotides *, not a WRLFMD reference number							

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Serotype: O WRL Ref No: EGY/26/2009 Sender Ref: 7-P1 Date collected: 19/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-26.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0
7	O/EGY/23/2009	EGY09-23	639	639	0	100	0
8	O/EGY/24/2009	EGY09-24	639	639	0	100	0
9	O/EGY/25/2009	EGY09-25	639	639	0	100	0
10	O/EGY/27/2009	EGY09-27	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRL Ref No: EGY/27/2009 Sender Ref: 8 Date collected: 19/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-27.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 days																																																																																								
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Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
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4	O/EGY/20/2009	EGY09-20	639	639	0	100	0																																																																																		
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0																																																																																		
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0																																																																																		
7	O/EGY/23/2009	EGY09-23	639	639	0	100	0																																																																																		
8	O/EGY/24/2009	EGY09-24	639	639	0	100	0																																																																																		
9	O/EGY/25/2009	EGY09-25	639	639	0	100	0																																																																																		
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Serotype: O WRL Ref No: EGY/28/2009 Sender Ref: 8-P1 Date collected: 19/04/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: CATTLE Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-28.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0
7	O/EGY/23/2009	EGY09-23	639	639	0	100	0
8	O/EGY/24/2009	EGY09-24	639	639	0	100	0
9	O/EGY/25/2009	EGY09-25	639	639	0	100	0
10	O/EGY/26/2009	EGY09-26	639	639	0	100	0

Relationships to Reference Virus Strains

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2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRL Ref No: EGY/29/2009 Sender Ref: 1 Date collected: 04/05/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: SHEEP Material used: BTyl Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-29.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 days																																																																																								
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<p>Serotype: O WRL Ref No: EGY/30/2009 Sender Ref: 1-P1 Date collected: 04/05/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: SHEEP Material used: RS1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639</p>	<p>Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-30.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 days</p>																																																																																								
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4	O/EGY/32/2009	EGY09-32	639	635	0	99.37	0.63																																																																																		
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6	O/EGY/17/2009	EGY09-17	639	633	0	99.06	0.94																																																																																		
7	O/EGY/18/2009	EGY09-18	639	633	0	99.06	0.94																																																																																		
8	O/EGY/19/2009	EGY09-19	639	633	0	99.06	0.94																																																																																		
9	O/EGY/20/2009	EGY09-20	639	633	0	99.06	0.94																																																																																		
10	O/EGY/21/2009	EGY09-21	639	633	0	99.06	0.94																																																																																		
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Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
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<p>nt, nucleotides *, not a WRLFMD reference number</p>																																																																																									

Molecular Epidemiology Report Form

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Serotype: O WRL Ref No: EGY/31/2009 Sender Ref: 2 Date collected: 04/05/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: SHEEP Material used: BTyl Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-31.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/17/2009	EGY09-17	639	639	0	100	0
2	O/EGY/18/2009	EGY09-18	639	639	0	100	0
3	O/EGY/19/2009	EGY09-19	639	639	0	100	0
4	O/EGY/20/2009	EGY09-20	639	639	0	100	0
5	O/EGY/21/2009	EGY09-21	639	639	0	100	0
6	O/EGY/22/2009	EGY09-22	639	639	0	100	0
7	O/EGY/23/2009	EGY09-23	639	639	0	100	0
8	O/EGY/24/2009	EGY09-24	639	639	0	100	0
9	O/EGY/25/2009	EGY09-25	639	639	0	100	0
10	O/EGY/26/2009	EGY09-26	639	639	0	100	0

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69--E	639	594	0	92.96	7.04
2	O/IND/R2/75* [AF204276]	IND75--A	639	577	0	90.3	9.7
3	O/IND/53/79 [AF292107]	IND79A53	639	574	0	89.83	10.17
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	567	0	88.73	11.27
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	560	0	87.64	12.36
6	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68
7	O/TAI/189/87* [TRRL]	TAI87-AC	639	548	0	85.76	14.24
8	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
9	O/PHI/5/95 (DQ164946)	PHI95-05	639	516	0	80.75	19.25
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

Molecular Epidemiology Report Form

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Serotype: O WRL Ref No: EGY/32/2009 Sender Ref: 2-P1 Date collected: 04/05/2009 Date received by WRLFMD: 28/05/2009 Date received for sequencing: 08/06/2009 Species: SHEEP Material used: RS2 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 30/06/2009 Reported by: N.J. Knowles Checked by: D.P. King Topotype: ME-SA Genotype/strain: Sharquia-72 Sequence filename: EGY09-32.SEQ Date sequence last updated: 30/06/2009 Total no. of comparisons: 2008 Min. no. of nt for comparison: 300 Total turn-around time: 33 days Sequencing time: 22 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	O/EGY/1/2008	EGY08-01	639	639	0	100	0
2	O/EGY/10/2006	EGY06-10	639	639	0	100	0
3	O/EGY/11/2006	EGY06-11	639	639	0	100	0
4	O/EGY/4/2008	EGY08-04	639	639	0	100	0
5	O/EGY/17/2009	EGY09-17	639	637	0	99.69	0.31
6	O/EGY/18/2009	EGY09-18	639	637	0	99.69	0.31
7	O/EGY/19/2009	EGY09-19	639	637	0	99.69	0.31
8	O/EGY/20/2009	EGY09-20	639	637	0	99.69	0.31
9	O/EGY/21/2009	EGY09-21	639	637	0	99.69	0.31
10	O/EGY/22/2009	EGY09-22	639	637	0	99.69	0.31

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O1/Manisa/TUR/69 (AJ251477)	TUR69-E	639	592	0	92.64	7.36
2	O/IND/R2/75* (AF204276)	IND75-A	639	575	0	89.98	10.02
3	O/IND/53/79 (AF292107)	IND79A53	639	572	0	89.51	10.49
4	O/TAW/2/99 (AJ294927)	TAW99-02	639	565	0	88.42	11.58
5	O/ISR/2/88 (DQ164899)	ISR88-02	639	559	0	87.48	12.52
6	O/MOR/1/91	MOR91-01	639	557	0	87.17	12.83
7	O/TAI/189/87* (TRRL)	TAI87-AC	639	548	0	85.76	14.24
8	O/PHI/5/95 (DQ164946)	PHI95-05	639	518	0	81.06	18.94
9	O/HKN/6/83 (AJ294919)	HKN83-06	637	515	2	80.85	19.15
10	O1/BFS 1860/UK/67 (J02185)	UKG67--A	639	516	0	80.75	19.25

nt, nucleotides

*, not a WRLFMD reference number

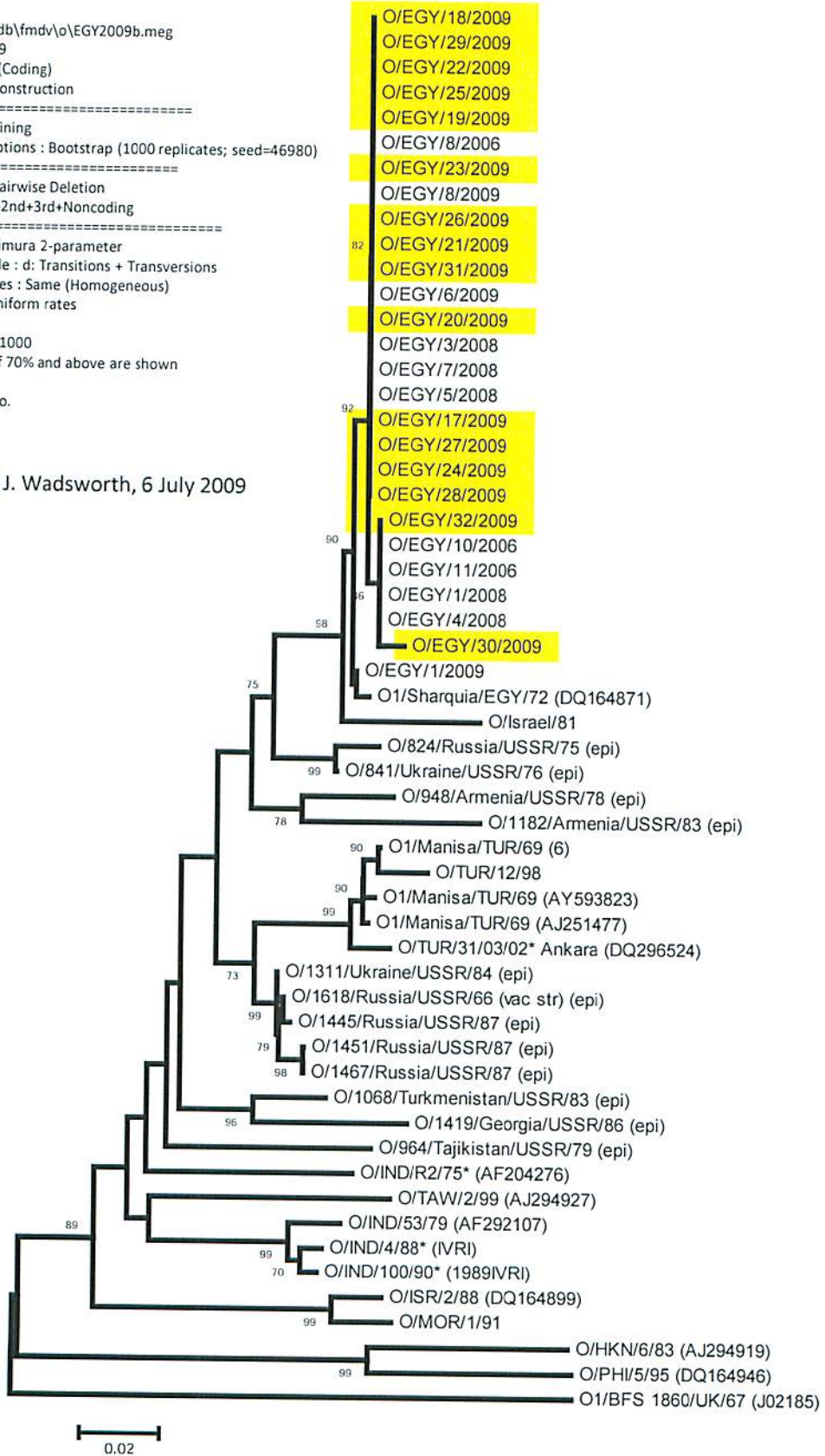
Report on FMDV O from Egypt in 2009

Batch: WRLFMD/2009/00028

Software: MEGA 4.0
 No. of Taxa : 56
 Data File : n:\evd\meg\db\fmdv\o\EGY2009b.meg
 Data Title : O Egypt 2009
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (1000 replicates; seed=46980)
 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 and J. Wadsworth, 6 July 2009



ME-SA

CATHAY
 EURO-SA