

# Molecular Epidemiology Report Form

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

Page 1 of 1

Serotype: O WRL Ref No: KUW/2/2006 Sender Ref: Sample no. 2 Date collected: 2006 Date received by WRLFMD: 11/04/2006 Date received for sequencing: 13/04/2006 Species: not known Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C272F/EUR-2B52R; O-1C244F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 24/06/2006 Reported by: N.J. Knowles Checked by: D.P. King  Topotype: Middle East-South Asia (ME-SA) Genotype/strain: PanAsia Sequence filename: KUW06-02.SEQ Date sequence last updated: 21/06/2006 Total no. of comparisons: 1860 Min. no. of nt for comparison: 300 Total turn-around time: 74 days Sequencing time: 72 days																																																																																								
Comments:																																																																																									
<b>Ten Most Closely Related Viruses</b>																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Pos.</th> <th style="width: 25%;">Virus name</th> <th style="width: 15%;">Filename</th> <th style="width: 10%;">No. nt compared</th> <th style="width: 10%;">No. nt matched</th> <th style="width: 10%;">No. of ambiguities</th> <th style="width: 10%;">% Identity</th> <th style="width: 10%;">% Difference</th> </tr> </thead> <tbody> <tr><td>1</td><td>O/KUW/3/2006</td><td>KUW06-03</td><td>639</td><td>638</td><td>0</td><td>99.84</td><td>0.16</td></tr> <tr><td>2</td><td>O/SAU/12/2005</td><td>SAU05-12</td><td>639</td><td>635</td><td>0</td><td>99.37</td><td>0.63</td></tr> <tr><td>3</td><td>O/SAU/8/2005</td><td>SAU05-08</td><td>639</td><td>634</td><td>0</td><td>99.22</td><td>0.78</td></tr> <tr><td>4</td><td>O/SAU/5/2005</td><td>SAU05-05</td><td>639</td><td>633</td><td>0</td><td>99.06</td><td>0.94</td></tr> <tr><td>5</td><td>O/SAU/10/2005</td><td>SAU05-10</td><td>639</td><td>633</td><td>0</td><td>99.06</td><td>0.94</td></tr> <tr><td>6</td><td>O/SAU/6/2005</td><td>SAU05-06</td><td>639</td><td>632</td><td>0</td><td>98.9</td><td>1.1</td></tr> <tr><td>7</td><td>O/SAU/11/2005</td><td>SAU05-11</td><td>639</td><td>632</td><td>0</td><td>98.9</td><td>1.1</td></tr> <tr><td>8</td><td>O/SAU/4/2005</td><td>SAU05-04</td><td>639</td><td>632</td><td>0</td><td>98.9</td><td>1.1</td></tr> <tr><td>9</td><td>O/SAU/14/2005</td><td>SAU05-14</td><td>639</td><td>629</td><td>0</td><td>98.44</td><td>1.56</td></tr> <tr><td>10</td><td>O/SAU/13/2005</td><td>SAU05-13</td><td>639</td><td>629</td><td>0</td><td>98.44</td><td>1.56</td></tr> </tbody> </table>		Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference	1	O/KUW/3/2006	KUW06-03	639	638	0	99.84	0.16	2	O/SAU/12/2005	SAU05-12	639	635	0	99.37	0.63	3	O/SAU/8/2005	SAU05-08	639	634	0	99.22	0.78	4	O/SAU/5/2005	SAU05-05	639	633	0	99.06	0.94	5	O/SAU/10/2005	SAU05-10	639	633	0	99.06	0.94	6	O/SAU/6/2005	SAU05-06	639	632	0	98.9	1.1	7	O/SAU/11/2005	SAU05-11	639	632	0	98.9	1.1	8	O/SAU/4/2005	SAU05-04	639	632	0	98.9	1.1	9	O/SAU/14/2005	SAU05-14	639	629	0	98.44	1.56	10	O/SAU/13/2005	SAU05-13	639	629	0	98.44	1.56
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
1	O/KUW/3/2006	KUW06-03	639	638	0	99.84	0.16																																																																																		
2	O/SAU/12/2005	SAU05-12	639	635	0	99.37	0.63																																																																																		
3	O/SAU/8/2005	SAU05-08	639	634	0	99.22	0.78																																																																																		
4	O/SAU/5/2005	SAU05-05	639	633	0	99.06	0.94																																																																																		
5	O/SAU/10/2005	SAU05-10	639	633	0	99.06	0.94																																																																																		
6	O/SAU/6/2005	SAU05-06	639	632	0	98.9	1.1																																																																																		
7	O/SAU/11/2005	SAU05-11	639	632	0	98.9	1.1																																																																																		
8	O/SAU/4/2005	SAU05-04	639	632	0	98.9	1.1																																																																																		
9	O/SAU/14/2005	SAU05-14	639	629	0	98.44	1.56																																																																																		
10	O/SAU/13/2005	SAU05-13	639	629	0	98.44	1.56																																																																																		
<b>Relationships to Reference Virus Strains</b>																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Pos.</th> <th style="width: 25%;">Virus name</th> <th style="width: 15%;">Filename</th> <th style="width: 10%;">No. nt compared</th> <th style="width: 10%;">No. nt matched</th> <th style="width: 10%;">No. of ambiguities</th> <th style="width: 10%;">% Identity</th> <th style="width: 10%;">% Difference</th> </tr> </thead> <tbody> <tr><td>1</td><td>O/TAW/2/99</td><td>TAW99-02</td><td>639</td><td>603</td><td>0</td><td>94.37</td><td>5.63</td></tr> <tr><td>2</td><td>O1/Manisa/TUR/69</td><td>TUR69--E</td><td>639</td><td>571</td><td>0</td><td>89.36</td><td>10.64</td></tr> <tr><td>3</td><td>O/IND/53/79 [AF292107]</td><td>IND79A53</td><td>639</td><td>566</td><td>0</td><td>88.58</td><td>11.42</td></tr> <tr><td>4</td><td>O/IND/R2/75* [AF204276]</td><td>IND75--A</td><td>639</td><td>562</td><td>0</td><td>87.95</td><td>12.05</td></tr> <tr><td>5</td><td>O/MOR/1/91</td><td>MOR91-01</td><td>639</td><td>559</td><td>0</td><td>87.48</td><td>12.52</td></tr> <tr><td>6</td><td>O/TAI/189/87* [TRRL]</td><td>TAI87-AC</td><td>639</td><td>557</td><td>0</td><td>87.17</td><td>12.83</td></tr> <tr><td>7</td><td>O/ISR/2/88</td><td>ISR88-02</td><td>639</td><td>557</td><td>0</td><td>87.17</td><td>12.83</td></tr> <tr><td>8</td><td>O/PHI/5/95</td><td>PHI95-05</td><td>639</td><td>519</td><td>0</td><td>81.22</td><td>18.78</td></tr> <tr><td>9</td><td>O/HKN/6/83</td><td>HKN83-06</td><td>637</td><td>514</td><td>2</td><td>80.69</td><td>19.31</td></tr> <tr><td>10</td><td>O1/BFS 1860/UK/67</td><td>UKG67--A</td><td>639</td><td>513</td><td>0</td><td>80.28</td><td>19.72</td></tr> </tbody> </table>		Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference	1	O/TAW/2/99	TAW99-02	639	603	0	94.37	5.63	2	O1/Manisa/TUR/69	TUR69--E	639	571	0	89.36	10.64	3	O/IND/53/79 [AF292107]	IND79A53	639	566	0	88.58	11.42	4	O/IND/R2/75* [AF204276]	IND75--A	639	562	0	87.95	12.05	5	O/MOR/1/91	MOR91-01	639	559	0	87.48	12.52	6	O/TAI/189/87* [TRRL]	TAI87-AC	639	557	0	87.17	12.83	7	O/ISR/2/88	ISR88-02	639	557	0	87.17	12.83	8	O/PHI/5/95	PHI95-05	639	519	0	81.22	18.78	9	O/HKN/6/83	HKN83-06	637	514	2	80.69	19.31	10	O1/BFS 1860/UK/67	UKG67--A	639	513	0	80.28	19.72
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
1	O/TAW/2/99	TAW99-02	639	603	0	94.37	5.63																																																																																		
2	O1/Manisa/TUR/69	TUR69--E	639	571	0	89.36	10.64																																																																																		
3	O/IND/53/79 [AF292107]	IND79A53	639	566	0	88.58	11.42																																																																																		
4	O/IND/R2/75* [AF204276]	IND75--A	639	562	0	87.95	12.05																																																																																		
5	O/MOR/1/91	MOR91-01	639	559	0	87.48	12.52																																																																																		
6	O/TAI/189/87* [TRRL]	TAI87-AC	639	557	0	87.17	12.83																																																																																		
7	O/ISR/2/88	ISR88-02	639	557	0	87.17	12.83																																																																																		
8	O/PHI/5/95	PHI95-05	639	519	0	81.22	18.78																																																																																		
9	O/HKN/6/83	HKN83-06	637	514	2	80.69	19.31																																																																																		
10	O1/BFS 1860/UK/67	UKG67--A	639	513	0	80.28	19.72																																																																																		
nt, nucleotides *, not a WRLFMD reference number																																																																																									

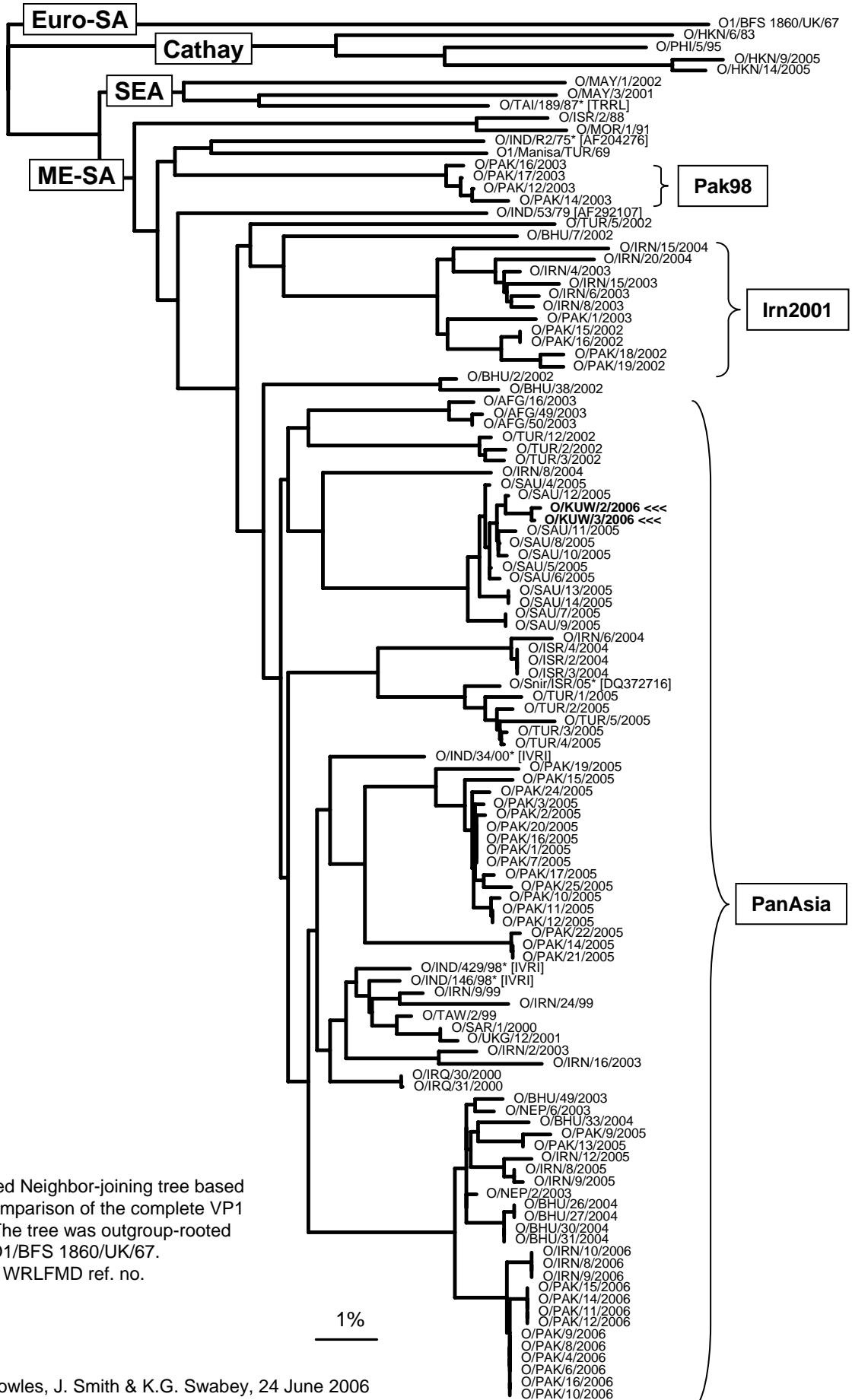
# Molecular Epidemiology Report Form

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

Page 1 of 1

Serotype: O WRL Ref No: KUW/3/2006 Sender Ref: Sample no. 3 Date collected: 2006 Date received by WRLFMD: 11/04/2006 Date received for sequencing: 13/04/2006 Species: not known Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C272F/EUR-2B52R; O-1C244F/EUR-2B52R No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639	Report date: 24/06/2006 Reported by: N.J. Knowles Checked by: D.P. King  Topotype: Middle East-South Asia (ME-SA) Genotype/strain: PanAsia Sequence filename: KUW06-03.SEQ Date sequence last updated: 21/06/2006 Total no. of comparisons: 1860 Min. no. of nt for comparison: 300 Total turn-around time: 74 days Sequencing time: 72 days																																																																																								
Comments:																																																																																									
<b>Ten Most Closely Related Viruses</b>																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Pos.</th> <th style="width: 30%;">Virus name</th> <th style="width: 20%;">Filename</th> <th style="width: 10%;">No. nt compared</th> <th style="width: 10%;">No. nt matched</th> <th style="width: 10%;">No. of ambiguities</th> <th style="width: 10%;">% Identity</th> <th style="width: 10%;">% Difference</th> </tr> </thead> <tbody> <tr><td>1</td><td>O/KUW/2/2006</td><td>KUW06-02</td><td>639</td><td>638</td><td>0</td><td>99.84</td><td>0.16</td></tr> <tr><td>2</td><td>O/SAU/12/2005</td><td>SAU05-12</td><td>639</td><td>636</td><td>0</td><td>99.53</td><td>0.47</td></tr> <tr><td>3</td><td>O/SAU/8/2005</td><td>SAU05-08</td><td>639</td><td>635</td><td>0</td><td>99.37</td><td>0.63</td></tr> <tr><td>4</td><td>O/SAU/5/2005</td><td>SAU05-05</td><td>639</td><td>634</td><td>0</td><td>99.22</td><td>0.78</td></tr> <tr><td>5</td><td>O/SAU/10/2005</td><td>SAU05-10</td><td>639</td><td>634</td><td>0</td><td>99.22</td><td>0.78</td></tr> <tr><td>6</td><td>O/SAU/6/2005</td><td>SAU05-06</td><td>639</td><td>633</td><td>0</td><td>99.06</td><td>0.94</td></tr> <tr><td>7</td><td>O/SAU/11/2005</td><td>SAU05-11</td><td>639</td><td>633</td><td>0</td><td>99.06</td><td>0.94</td></tr> <tr><td>8</td><td>O/SAU/4/2005</td><td>SAU05-04</td><td>639</td><td>633</td><td>0</td><td>99.06</td><td>0.94</td></tr> <tr><td>9</td><td>O/SAU/14/2005</td><td>SAU05-14</td><td>639</td><td>630</td><td>0</td><td>98.59</td><td>1.41</td></tr> <tr><td>10</td><td>O/SAU/13/2005</td><td>SAU05-13</td><td>639</td><td>630</td><td>0</td><td>98.59</td><td>1.41</td></tr> </tbody> </table>		Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference	1	O/KUW/2/2006	KUW06-02	639	638	0	99.84	0.16	2	O/SAU/12/2005	SAU05-12	639	636	0	99.53	0.47	3	O/SAU/8/2005	SAU05-08	639	635	0	99.37	0.63	4	O/SAU/5/2005	SAU05-05	639	634	0	99.22	0.78	5	O/SAU/10/2005	SAU05-10	639	634	0	99.22	0.78	6	O/SAU/6/2005	SAU05-06	639	633	0	99.06	0.94	7	O/SAU/11/2005	SAU05-11	639	633	0	99.06	0.94	8	O/SAU/4/2005	SAU05-04	639	633	0	99.06	0.94	9	O/SAU/14/2005	SAU05-14	639	630	0	98.59	1.41	10	O/SAU/13/2005	SAU05-13	639	630	0	98.59	1.41
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
1	O/KUW/2/2006	KUW06-02	639	638	0	99.84	0.16																																																																																		
2	O/SAU/12/2005	SAU05-12	639	636	0	99.53	0.47																																																																																		
3	O/SAU/8/2005	SAU05-08	639	635	0	99.37	0.63																																																																																		
4	O/SAU/5/2005	SAU05-05	639	634	0	99.22	0.78																																																																																		
5	O/SAU/10/2005	SAU05-10	639	634	0	99.22	0.78																																																																																		
6	O/SAU/6/2005	SAU05-06	639	633	0	99.06	0.94																																																																																		
7	O/SAU/11/2005	SAU05-11	639	633	0	99.06	0.94																																																																																		
8	O/SAU/4/2005	SAU05-04	639	633	0	99.06	0.94																																																																																		
9	O/SAU/14/2005	SAU05-14	639	630	0	98.59	1.41																																																																																		
10	O/SAU/13/2005	SAU05-13	639	630	0	98.59	1.41																																																																																		
<b>Relationships to Reference Virus Strains</b>																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Pos.</th> <th style="width: 30%;">Virus name</th> <th style="width: 20%;">Filename</th> <th style="width: 10%;">No. nt compared</th> <th style="width: 10%;">No. nt matched</th> <th style="width: 10%;">No. of ambiguities</th> <th style="width: 10%;">% Identity</th> <th style="width: 10%;">% Difference</th> </tr> </thead> <tbody> <tr><td>1</td><td>O/TAW/2/99</td><td>TAW99-02</td><td>639</td><td>604</td><td>0</td><td>94.52</td><td>5.48</td></tr> <tr><td>2</td><td>O1/Manisa/TUR/69</td><td>TUR69--E</td><td>639</td><td>570</td><td>0</td><td>89.2</td><td>10.8</td></tr> <tr><td>3</td><td>O/IND/53/79 [AF292107]</td><td>IND79A53</td><td>639</td><td>565</td><td>0</td><td>88.42</td><td>11.58</td></tr> <tr><td>4</td><td>O/IND/R2/75* [AF204276]</td><td>IND75--A</td><td>639</td><td>561</td><td>0</td><td>87.79</td><td>12.21</td></tr> <tr><td>5</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>6</td><td>O/TAI/189/87* [TRRL]</td><td>TAI87-AC</td><td>639</td><td>556</td><td>0</td><td>87.01</td><td>12.99</td></tr> <tr><td>7</td><td>O/ISR/2/88</td><td>ISR88-02</td><td>639</td><td>556</td><td>0</td><td>87.01</td><td>12.99</td></tr> <tr><td>8</td><td>O/PHI/5/95</td><td>PHI95-05</td><td>639</td><td>520</td><td>0</td><td>81.38</td><td>18.62</td></tr> <tr><td>9</td><td>O/HKN/6/83</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>10</td><td>O1/BFS 1860/UK/67</td><td>UKG67--A</td><td>639</td><td>512</td><td>0</td><td>80.13</td><td>19.87</td></tr> </tbody> </table>		Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference	1	O/TAW/2/99	TAW99-02	639	604	0	94.52	5.48	2	O1/Manisa/TUR/69	TUR69--E	639	570	0	89.2	10.8	3	O/IND/53/79 [AF292107]	IND79A53	639	565	0	88.42	11.58	4	O/IND/R2/75* [AF204276]	IND75--A	639	561	0	87.79	12.21	5	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68	6	O/TAI/189/87* [TRRL]	TAI87-AC	639	556	0	87.01	12.99	7	O/ISR/2/88	ISR88-02	639	556	0	87.01	12.99	8	O/PHI/5/95	PHI95-05	639	520	0	81.38	18.62	9	O/HKN/6/83	HKN83-06	637	515	2	80.85	19.15	10	O1/BFS 1860/UK/67	UKG67--A	639	512	0	80.13	19.87
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference																																																																																		
1	O/TAW/2/99	TAW99-02	639	604	0	94.52	5.48																																																																																		
2	O1/Manisa/TUR/69	TUR69--E	639	570	0	89.2	10.8																																																																																		
3	O/IND/53/79 [AF292107]	IND79A53	639	565	0	88.42	11.58																																																																																		
4	O/IND/R2/75* [AF204276]	IND75--A	639	561	0	87.79	12.21																																																																																		
5	O/MOR/1/91	MOR91-01	639	558	0	87.32	12.68																																																																																		
6	O/TAI/189/87* [TRRL]	TAI87-AC	639	556	0	87.01	12.99																																																																																		
7	O/ISR/2/88	ISR88-02	639	556	0	87.01	12.99																																																																																		
8	O/PHI/5/95	PHI95-05	639	520	0	81.38	18.62																																																																																		
9	O/HKN/6/83	HKN83-06	637	515	2	80.85	19.15																																																																																		
10	O1/BFS 1860/UK/67	UKG67--A	639	512	0	80.13	19.87																																																																																		
nt, nucleotides *, not a WRLFMD reference number																																																																																									

# Report on FMDV-O from Kuwait in 2006



Unrooted Neighbor-joining tree based on a comparison of the complete VP1 gene. The tree was outgroup-rooted using O1/BFS 1860/UK/67. \*, not a WRLFMD ref. no.

1%