

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/1/2003	Reported by N.J. Knowles:						
Date collected: 31/01/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: SEA						
Species: Cattle	Genotype/strain: Mya98						
Material used: BTy1	Sequence filename: LAO03-01.SEQ						
Region sequenced: VP1	Date sequence last updated: 16/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 529							
No. of ambiguities: 12							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/35/2003	LAO03-35	528	523	13	99.05	0.95
2	O/LAO/4/2001	LAO01-04	529	517	12	97.73	2.27
3	O/LAO/7/2003	LAO03-07	526	514	15	97.72	2.28
4	O/MAY/5/2001	MAY01-05	529	514	12	97.16	2.84
5	O/MAY/6/2001	MAY01-06	529	514	12	97.16	2.84
6	O/LAO/2/2001	LAO01-02	524	508	17	96.95	3.05
7	O/MYA/7/2002	MYA02-07	529	508	12	96.03	3.97
8	O/TAI/3/2003	TAI03-03	529	506	12	95.65	4.35
9	O/MYA/6/98	MYA98-06	141	133	18	94.33	5.67
10	O/MYA/1/98	MYA98-01	522	490	19	93.87	6.13
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAI/189/87*	TAI87-AC	529	477	12	90.17	9.83
2	O/TAW/2/99	TAW99-02	529	458	12	86.58	13.42
3	O/IND/R2/75*	IND75--A	529	452	12	85.44	14.56
4	O/IND/53/79	IND79A53	529	450	12	85.07	14.93
5	O1/Manisa/TUR/69	TUR69--E	529	447	12	84.50	15.50
6	O/MOR/1/91	MOR91-01	147	123	12	83.67	16.33
7	O/ISR/1/88	ISR88-01	133	106	14	79.70	20.30
8	O1/BFS 1860/UK/67	UKG67--A	529	418	12	79.02	20.98
9	O/PHI/5/95	PHI95-05	455	357	16	78.46	21.54
10	O/HKN/6/83	HKN83-06	527	411	14	77.99	22.01
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/2/2003	Reported by N.J. Knowles:
Date collected: 19/03/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Cattle	Genotype/strain: PanAsia
Material used: BTy1	Sequence filename: LAO03-02.SEQ
Region sequenced: VP1	Date sequence last updated: 16/03/2004
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 592	
No. of ambiguities: 5	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/4/2003	LAO03-04	212	211	4	99.53	0.47
2	O/LAO/11/2003	LAO03-11	592	589	5	99.49	0.51
3	O/LAO/13/2003	LAO03-13	592	589	5	99.49	0.51
4	O/LAO/29/2003	LAO03-29	591	588	6	99.49	0.51
5	O/LAO/24/2003	LAO03-24	505	501	5	99.21	0.79
6	O/LAO/3/2003	LAO03-03	587	582	10	99.15	0.85
7	O/LAO/30/2003	LAO03-30	592	586	5	98.99	1.01
8	O/LAO/27/2003	LAO03-27	587	581	10	98.98	1.02
9	O/LAO/6/2003	LAO03-06	554	548	5	98.92	1.08
10	O/LAO/25/2003	LAO03-25	174	172	3	98.85	1.15

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	592	570	5	96.28	3.72
2	O1/Manisa/TUR/69	TUR69--E	592	535	5	90.37	9.63
3	O/IND/53/79	IND79A53	592	532	5	89.86	10.14
4	O/IND/R2/75*	IND75--A	592	524	5	88.51	11.49
5	O/TAI/189/87*	TAI87-AC	592	515	5	86.99	13.01
6	O/ISR/1/88	ISR88-01	191	161	7	84.29	15.71
7	O/MOR/1/91	MOR91-01	205	171	5	83.41	16.59
8	O/PHI/5/95	PHI95-05	513	414	9	80.70	19.30
9	O/HKN/6/83	HKN83-06	590	476	7	80.68	19.32
10	O1/BFS 1860/UK/67	UKG67--A	592	475	5	80.24	19.76

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/3/2003	Reported by N.J. Knowles:						
Date collected: 21/03/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Cattle	Genotype/strain: PanAsia						
Material used: BTy1	Sequence filename: LAO03-03.SEQ						
Region sequenced: VP1	Date sequence last updated: 16/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 634							
No. of ambiguities: 5							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/4/2003	LAO03-04	257	257	1	100.00	0.00
2	O/LAO/6/2003	LAO03-06	598	595	3	99.50	0.50
3	O/LAO/13/2003	LAO03-13	634	629	5	99.21	0.79
4	O/LAO/29/2003	LAO03-29	603	598	6	99.17	0.83
5	O/LAO/2/2003	LAO03-02	587	582	10	99.15	0.85
6	O/LAO/24/2003	LAO03-24	548	543	4	99.09	0.91
7	O/LAO/25/2003	LAO03-25	219	217	0	99.09	0.91
8	O/LAO/11/2003	LAO03-11	633	627	6	99.05	0.95
9	O/LAO/27/2003	LAO03-27	593	585	9	98.65	1.35
10	O/LAO/23/2003	LAO03-23	634	625	5	98.58	1.42
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	634	610	5	96.21	3.79
2	O1/Manisa/TUR/69	TUR69--E	634	568	5	89.59	10.41
3	O/IND/53/79	IND79A53	634	564	5	88.96	11.04
4	O/IND/R2/75*	IND75--A	634	562	5	88.64	11.36
5	O/TAI/189/87*	TAI87-AC	634	553	5	87.22	12.78
6	O/ISR/1/88	ISR88-01	189	159	9	84.13	15.87
7	O/MOR/1/91	MOR91-01	203	169	7	83.25	16.75
8	O/HKN/6/83	HKN83-06	632	512	7	81.01	18.99
9	O/PHI/5/95	PHI95-05	511	413	11	80.82	19.18
10	O1/BFS 1860/UK/67	UKG67--A	634	503	5	79.34	20.66
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/5/2003	Reported by N.J. Knowles:						
Date collected: 21/03/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Cattle	Genotype/strain: PanAsia						
Material used: BTy1	Sequence filename: LAO03-05.SEQ						
Region sequenced: VP1	Date sequence last updated: 16/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 603							
No. of ambiguities: 3							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/2/2003	LAO03-02	584	573	7	98.12	1.88
2	O/LAO/29/2003	LAO03-29	600	588	3	98.00	2.00
3	O/LAO/13/2003	LAO03-13	603	590	3	97.84	2.16
4	O/LAO/11/2003	LAO03-11	603	590	3	97.84	2.16
5	O/LAO/3/2003	LAO03-03	599	586	7	97.83	2.17
6	O/LAO/6/2003	LAO03-06	572	559	2	97.73	2.27
7	O/LAO/27/2003	LAO03-27	588	573	8	97.45	2.55
8	O/LAO/30/2003	LAO03-30	603	587	3	97.35	2.65
9	O/LAO/21/2003	LAO03-21	601	585	5	97.34	2.66
10	O/LAO/24/2003	LAO03-24	523	509	2	97.32	2.68
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	603	572	3	94.86	5.14
2	O1/Manisa/TUR/69	TUR69--E	603	533	3	88.39	11.61
3	O/IND/53/79	IND79A53	603	532	3	88.23	11.77
4	O/IND/R2/75*	IND75--A	603	529	3	87.73	12.27
5	O/TAI/189/87*	TAI87-AC	603	519	3	86.07	13.93
6	O/ISR/1/88	ISR88-01	184	155	8	84.24	15.76
7	O/MOR/1/91	MOR91-01	198	166	6	83.84	16.16
8	O/PHI/5/95	PHI95-05	507	407	9	80.28	19.72
9	O1/BFS 1860/UK/67	UKG67--A	603	478	3	79.27	20.73
10	O/HKN/6/83	HKN83-06	601	476	5	79.20	20.80
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/6/2003	Reported by N.J. Knowles:						
Date collected: 21/03/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Cattle	Genotype/strain: PanAsia						
Material used: BTy1	Sequence filename: LAO03-06.SEQ						
Region sequenced: VP1	Date sequence last updated: 16/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 599							
No. of ambiguities: 2							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/3/2003	LAO03-03	598	595	3	99.50	0.50
2	O/LAO/4/2003	LAO03-04	256	254	2	99.22	0.78
3	O/LAO/13/2003	LAO03-13	599	593	2	99.00	1.00
4	O/LAO/29/2003	LAO03-29	569	563	2	98.95	1.05
5	O/LAO/2/2003	LAO03-02	554	548	5	98.92	1.08
6	O/LAO/11/2003	LAO03-11	598	591	3	98.83	1.17
7	O/LAO/24/2003	LAO03-24	548	541	4	98.72	1.28
8	O/LAO/23/2003	LAO03-23	599	591	2	98.66	1.34
9	O/LAO/30/2003	LAO03-30	598	589	3	98.49	1.51
10	O/LAO/31/2003	LAO03-31	597	588	4	98.49	1.51
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	599	574	2	95.83	4.17
2	O1/Manisa/TUR/69	TUR69--E	599	532	2	88.81	11.19
3	O/IND/53/79	IND79A53	599	529	2	88.31	11.69
4	O/IND/R2/75*	IND75--A	599	526	2	87.81	12.19
5	O/TAI/189/87*	TAI87-AC	599	519	2	86.64	13.36
6	O/MOR/1/91	MOR91-01	170	138	2	81.18	18.82
7	O/ISR/1/88	ISR88-01	155	125	5	80.65	19.35
8	O/PHI/5/95	PHI95-05	476	383	8	80.46	19.54
9	O/HKN/6/83	HKN83-06	597	478	4	80.07	19.93
10	O1/BFS 1860/UK/67	UKG67--A	599	469	2	78.30	21.70
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/7/2003	Reported by N.J. Knowles:
Date collected: 07/04/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: SEA
Species: Cattle	Genotype/strain: Mya98
Material used: BTy1	Sequence filename: LAO03-07.SEQ
Region sequenced: VP1	Date sequence last updated: 16/03/2004
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 598	
No. of ambiguities: 4	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/4/2001	LAO01-04	598	593	4	99.16	0.84
2	O/LAO/2/2001	LAO01-02	592	586	10	98.99	1.01
3	O/MAY/5/2001	MAY01-05	598	591	4	98.83	1.17
4	O/MAY/6/2001	MAY01-06	598	591	4	98.83	1.17
5	O/LAO/1/2003	LAO03-01	526	514	15	97.72	2.28
6	O/MYA/7/2002	MYA02-07	598	582	4	97.32	2.68
7	O/LAO/35/2003	LAO03-35	597	581	5	97.32	2.68
8	O/TAI/3/2003	TAI03-03	598	580	4	96.99	3.01
9	O/MYA/6/98	MYA98-06	194	185	10	95.36	4.64
10	O/MYA/1/98	MYA98-01	591	563	11	95.26	4.74

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAI/189/87*	TAI87-AC	598	545	4	91.14	8.86
2	O/TAW/2/99	TAW99-02	598	516	4	86.29	13.71
3	O/IND/R2/75*	IND75--A	598	514	4	85.95	14.05
4	O/IND/53/79	IND79A53	598	510	4	85.28	14.72
5	O1/Manisa/TUR/69	TUR69--E	598	508	4	84.95	15.05
6	O/MOR/1/91	MOR91-01	201	161	3	80.10	19.90
7	O/ISR/1/88	ISR88-01	187	148	5	79.14	20.86
8	O1/BFS 1860/UK/67	UKG67--A	598	473	4	79.10	20.90
9	O/HKN/6/83	HKN83-06	596	465	6	78.02	21.98
10	O/PHI/5/95	PHI95-05	509	397	7	78.00	22.00

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/11/2003	Reported by N.J. Knowles:						
Date collected: 12/05/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Buffalo	Genotype/strain: PanAsia						
Material used: BTy1	Sequence filename: LAO03-11.SEQ						
Region sequenced: VP1	Date sequence last updated: 16/03/2004						
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 638							
No. of ambiguities: 1							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/29/2003	LAO03-29	608	606	1	99.67	0.33
2	O/LAO/13/2003	LAO03-13	638	635	1	99.53	0.47
3	O/LAO/2/2003	LAO03-02	592	589	5	99.49	0.51
4	O/LAO/24/2003	LAO03-24	549	545	3	99.27	0.73
5	O/LAO/4/2003	LAO03-04	256	254	2	99.22	0.78
6	O/LAO/27/2003	LAO03-27	597	592	5	99.16	0.84
7	O/LAO/25/2003	LAO03-25	218	216	1	99.08	0.92
8	O/LAO/30/2003	LAO03-30	637	631	2	99.06	0.94
9	O/LAO/3/2003	LAO03-03	633	627	6	99.05	0.95
10	O/LAO/23/2003	LAO03-23	638	631	1	98.90	1.10
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	638	613	1	96.08	3.92
2	O1/Manisa/TUR/69	TUR69--E	638	570	1	89.34	10.66
3	O/IND/53/79	IND79A53	638	565	1	88.56	11.44
4	O/IND/R2/75*	IND75--A	638	562	1	88.09	11.91
5	O/TAI/189/87*	TAI87-AC	638	555	1	86.99	13.01
6	O/ISR/1/88	ISR88-01	193	163	5	84.46	15.54
7	O/MOR/1/91	MOR91-01	207	173	3	83.57	16.43
8	O/PHI/5/95	PHI95-05	516	418	6	81.01	18.99
9	O/HKN/6/83	HKN83-06	636	514	3	80.82	19.18
10	O1/BFS 1860/UK/67	UKG67--A	638	508	1	79.62	20.38
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/12/2003	Reported by N.J. Knowles:
Date collected: 15/05/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Cattle	Genotype/strain: PanAsia
Material used: BTy1	Sequence filename: LAO03-12.SEQ
Region sequenced: VP1	Date sequence last updated: 16/03/2004
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 635	
No. of ambiguities: 1	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/24/2003	LAO03-24	549	547	3	99.64	0.36
2	O/LAO/4/2003	LAO03-04	256	255	2	99.61	0.39
3	O/LAO/25/2003	LAO03-25	218	217	1	99.54	0.46
4	O/LAO/13/2003	LAO03-13	635	625	1	98.43	1.57
5	O/LAO/29/2003	LAO03-29	604	594	2	98.34	1.66
6	O/LAO/26/2003	LAO03-26	604	594	1	98.34	1.66
7	O/LAO/11/2003	LAO03-11	634	623	2	98.26	1.74
8	O/LAO/22/2003	LAO03-22	607	596	2	98.19	1.81
9	O/LAO/6/2003	LAO03-06	598	587	3	98.16	1.84
10	O/LAO/27/2003	LAO03-27	594	583	5	98.15	1.85

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	635	604	1	95.12	4.88
2	O1/Manisa/TUR/69	TUR69--E	635	563	1	88.66	11.34
3	O/IND/53/79	IND79A53	635	560	1	88.19	11.81
4	O/IND/R2/75*	IND75--A	635	555	1	87.40	12.60
5	O/TAI/189/87*	TAI87-AC	635	544	1	85.67	14.33
6	O/MOR/1/91	MOR91-01	204	166	3	81.37	18.63
7	O/ISR/1/88	ISR88-01	190	154	5	81.05	18.95
8	O/PHI/5/95	PHI95-05	513	412	6	80.31	19.69
9	O/HKN/6/83	HKN83-06	633	507	3	80.09	19.91
10	O1/BFS 1860/UK/67	UKG67--A	635	496	1	78.11	21.89

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/13/2003	Reported by N.J. Knowles:						
Date collected: 16/05/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Buffalo	Genotype/strain: PanAsia						
Material used: BTy1	Sequence filename: LAO03-13.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 639							
No. of ambiguities: 0							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/29/2003	LAO03-29	608	606	1	99.67	0.33
2	O/LAO/4/2003	LAO03-04	257	256	1	99.61	0.39
3	O/LAO/25/2003	LAO03-25	219	218	0	99.54	0.46
4	O/LAO/11/2003	LAO03-11	638	635	1	99.53	0.47
5	O/LAO/2/2003	LAO03-02	592	589	5	99.49	0.51
6	O/LAO/24/2003	LAO03-24	550	547	2	99.45	0.55
7	O/LAO/3/2003	LAO03-03	634	629	5	99.21	0.79
8	O/LAO/27/2003	LAO03-27	597	592	5	99.16	0.84
9	O/LAO/23/2003	LAO03-23	639	633	0	99.06	0.94
10	O/LAO/30/2003	LAO03-30	638	632	1	99.06	0.94
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	639	614	0	96.09	3.91
2	O1/Manisa/TUR/69	TUR69--E	639	571	0	89.36	10.64
3	O/IND/53/79	IND79A53	639	568	0	88.89	11.11
4	O/IND/R2/75*	IND75--A	639	565	0	88.42	11.58
5	O/TAI/189/87*	TAI87-AC	639	558	0	87.32	12.68
6	O/ISR/1/88	ISR88-01	193	164	5	84.97	15.03
7	O/MOR/1/91	MOR91-01	207	174	3	84.06	15.94
8	O/PHI/5/95	PHI95-05	516	419	6	81.20	18.80
9	O/HKN/6/83	HKN83-06	637	514	2	80.69	19.31
10	O1/BFS 1860/UK/67	UKG67--A	639	509	0	79.66	20.34
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/17/2003	Reported by N.J. Knowles:
Date collected: 25/05/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Buffalo	Genotype/strain:
Material used: BTy1	Sequence filename: LAO03-17.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 635	
No. of ambiguities: 1	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/15/2003	LAO03-15	496	493	5	99.40	0.60
2	O/LAO/19/2003	LAO03-19	635	629	1	99.06	0.94
3	O/LAO/20/2003	LAO03-20	627	620	9	98.88	1.12
4	O/IND/160/99*	IND99-AF	207	200	0	96.62	3.38
5	O/IND/61/97* (1996)	IND96-AB	162	156	0	96.30	3.70
6	O/IND/209/99* (1998)	IND98-AU	162	156	0	96.30	3.70
7	O/IND/289/97*	IND97-AW	162	156	0	96.30	3.70
8	O/IND/307/98*	IND98-AJ	179	172	1	96.09	3.91
9	O/IND/65/98*	IND98-AF	162	155	0	95.68	4.32
10	O/IND/281/97*	IND97-AV	162	155	0	95.68	4.32

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	635	597	1	94.02	5.98
2	O/IND/53/79	IND79A53	635	577	1	90.87	9.13
3	O1/Manisa/TUR/69	TUR69--E	635	572	1	90.08	9.92
4	O/IND/R2/75*	IND75--A	635	560	1	88.19	11.81
5	O/TAI/189/87*	TAI87-AC	635	551	1	86.77	13.23
6	O/MOR/1/91	MOR91-01	204	176	3	86.27	13.73
7	O/ISR/1/88	ISR88-01	190	163	5	85.79	14.21
8	O/HKN/6/83	HKN83-06	633	517	3	81.67	18.33
9	O1/BFS 1860/UK/67	UKG67--A	635	515	1	81.10	18.90
10	O/PHI/5/95	PHI95-05	513	415	6	80.90	19.10

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/19/2003	Reported by N.J. Knowles:						
Date collected: 27/05/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Cattle	Genotype/strain:						
Material used: BTy1	Sequence filename: LAO03-19.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 638							
No. of ambiguities: 1							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/17/2003	LAO03-17	635	629	1	99.06	0.94
2	O/LAO/20/2003	LAO03-20	629	622	10	98.89	1.11
3	O/LAO/15/2003	LAO03-15	499	493	5	98.80	1.20
4	O/IND/160/99*	IND99-AF	208	198	2	95.19	4.81
5	O/SKR/2/2000	SKR00-02	229	217	8	94.76	5.24
6	O/IND/61/97* (1996)	IND96-AB	164	155	1	94.51	5.49
7	O/IND/289/97*	IND97-AW	164	155	1	94.51	5.49
8	O/IND/209/99* (1998)	IND98-AU	164	155	1	94.51	5.49
9	O/IND/287/99*	IND99-AP	163	154	2	94.48	5.52
10	O/BAR/1/99	BAR99-01	323	305	0	94.43	5.57
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	638	598	1	93.73	6.27
2	O/IND/53/79	IND79A53	638	579	1	90.75	9.25
3	O1/Manisa/TUR/69	TUR69--E	638	574	1	89.97	10.03
4	O/IND/R2/75*	IND75--A	638	563	1	88.24	11.76
5	O/TAI/189/87*	TAI87-AC	638	553	1	86.68	13.32
6	O/MOR/1/91	MOR91-01	206	174	4	84.47	15.53
7	O/ISR/1/88	ISR88-01	192	162	6	84.38	15.63
8	O/HKN/6/83	HKN83-06	636	519	3	81.60	18.40
9	O1/BFS 1860/UK/67	UKG67--A	638	516	1	80.88	19.12
10	O/PHI/5/95	PHI95-05	515	415	7	80.58	19.42
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/20/2003	Reported by N.J. Knowles:
Date collected: 27/05/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Buffalo	Genotype/strain:
Material used: BTy1	Sequence filename: LAO03-20.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C583F/NK61; O-1C244F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 630	
No. of ambiguities: 9	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/19/2003	LAO03-19	629	622	10	98.89	1.11
2	O/LAO/17/2003	LAO03-17	627	620	9	98.88	1.12
3	O/LAO/15/2003	LAO03-15	491	484	13	98.57	1.43
4	O/IND/160/99*	IND99-AF	207	199	3	96.14	3.86
5	O/IND/61/97* (1996)	IND96-AB	163	156	2	95.71	4.29
6	O/IND/209/99* (1998)	IND98-AU	163	156	2	95.71	4.29
7	O/IND/289/97*	IND97-AW	163	156	2	95.71	4.29
8	O/SKR/2/2000	SKR00-02	228	218	9	95.61	4.39
9	O/IND/307/98*	IND98-AJ	180	172	3	95.56	4.44
10	O/IND/146/99*	IND99-AC	154	147	11	95.45	4.55

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	630	591	9	93.81	6.19
2	O/IND/53/79	IND79A53	630	567	9	90.00	10.00
3	O1/Manisa/TUR/69	TUR69--E	630	565	9	89.68	10.32
4	O/IND/R2/75*	IND75--A	630	553	9	87.78	12.22
5	O/TAI/189/87*	TAI87-AC	630	543	9	86.19	13.81
6	O/MOR/1/91	MOR91-01	205	174	5	84.88	15.12
7	O/ISR/1/88	ISR88-01	191	162	7	84.82	15.18
8	O/HKN/6/83	HKN83-06	628	512	11	81.53	18.47
9	O1/BFS 1860/UK/67	UKG67--A	630	513	9	81.43	18.57
10	O/PHI/5/95	PHI95-05	511	412	11	80.63	19.37

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/21/2003	Reported by N.J. Knowles:						
Date collected: 25/06/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Porcine	Genotype/strain: PanAsia						
Material used: RS1	Sequence filename: LAO03-21.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 637							
No. of ambiguities: 2							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/25/2003	LAO03-25	217	217	2	100.00	0.00
2	O/LAO/4/2003	LAO03-04	255	254	3	99.61	0.39
3	O/LAO/27/2003	LAO03-27	595	592	7	99.50	0.50
4	O/LAO/24/2003	LAO03-24	548	545	4	99.45	0.55
5	O/LAO/23/2003	LAO03-23	637	633	2	99.37	0.63
6	O/LAO/31/2003	LAO03-31	634	630	5	99.37	0.63
7	O/LAO/26/2003	LAO03-26	603	598	2	99.17	0.83
8	O/LAO/28/2003	LAO03-28	637	631	2	99.06	0.94
9	O/LAO/13/2003	LAO03-13	637	631	2	99.06	0.94
10	O/LAO/30/2003	LAO03-30	636	630	3	99.06	0.94
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	637	610	2	95.76	4.24
2	O1/Manisa/TUR/69	TUR69--E	637	571	2	89.64	10.36
3	O/IND/53/79	IND79A53	637	566	2	88.85	11.15
4	O/IND/R2/75*	IND75--A	637	563	2	88.38	11.62
5	O/TAI/189/87*	TAI87-AC	637	556	2	87.28	12.72
6	O/ISR/1/88	ISR88-01	193	162	5	83.94	16.06
7	O/MOR/1/91	MOR91-01	207	172	3	83.09	16.91
8	O/PHI/5/95	PHI95-05	515	418	7	81.17	18.83
9	O/HKN/6/83	HKN83-06	635	514	4	80.94	19.06
10	O1/BFS 1860/UK/67	UKG67--A	637	507	2	79.59	20.41
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/22/2003	Reported by N.J. Knowles:
Date collected: 26/06/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Porcine	Genotype/strain: PanAsia
Material used: RS1	Sequence filename: LAO03-22.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 608	
No. of ambiguities: 1	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/24/2003	LAO03-24	550	549	2	99.82	0.18
2	O/LAO/23/2003	LAO03-23	608	606	1	99.67	0.33
3	O/LAO/4/2003	LAO03-04	257	256	1	99.61	0.39
4	O/LAO/25/2003	LAO03-25	219	218	0	99.54	0.46
5	O/LAO/27/2003	LAO03-27	566	561	6	99.12	0.88
6	O/LAO/21/2003	LAO03-21	606	600	3	99.01	0.99
7	O/LAO/31/2003	LAO03-31	605	599	4	99.01	0.99
8	O/LAO/26/2003	LAO03-26	604	597	1	98.84	1.16
9	O/LAO/28/2003	LAO03-28	608	600	1	98.68	1.32
10	O/LAO/13/2003	LAO03-13	608	600	1	98.68	1.32

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	608	580	1	95.39	4.61
2	O1/Manisa/TUR/69	TUR69--E	608	542	1	89.14	10.86
3	O/IND/53/79	IND79A53	608	536	1	88.16	11.84
4	O/IND/R2/75*	IND75--A	608	534	1	87.83	12.17
5	O/TAI/189/87*	TAI87-AC	608	527	1	86.68	13.32
6	O/MOR/1/91	MOR91-01	177	143	3	80.79	19.21
7	O/HKN/6/83	HKN83-06	606	489	3	80.69	19.31
8	O/PHI/5/95	PHI95-05	485	390	7	80.41	19.59
9	O/ISR/1/88	ISR88-01	162	130	6	80.25	19.75
10	O1/BFS 1860/UK/67	UKG67--A	608	480	1	78.95	21.05

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/23/2003	Reported by N.J. Knowles:						
Date collected: 26/06/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Porcine	Genotype/strain: PanAsia						
Material used: RS1	Sequence filename: LAO03-23.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 639							
No. of ambiguities: 0							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/24/2003	LAO03-24	550	549	2	99.82	0.18
2	O/LAO/22/2003	LAO03-22	608	606	1	99.67	0.33
3	O/LAO/4/2003	LAO03-04	257	256	1	99.61	0.39
4	O/LAO/25/2003	LAO03-25	219	218	0	99.54	0.46
5	O/LAO/27/2003	LAO03-27	597	594	5	99.50	0.50
6	O/LAO/21/2003	LAO03-21	637	633	2	99.37	0.63
7	O/LAO/31/2003	LAO03-31	636	632	3	99.37	0.63
8	O/LAO/26/2003	LAO03-26	605	600	0	99.17	0.83
9	O/LAO/28/2003	LAO03-28	639	633	0	99.06	0.94
10	O/LAO/13/2003	LAO03-13	639	633	0	99.06	0.94
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	639	610	0	95.46	4.54
2	O1/Manisa/TUR/69	TUR69--E	639	571	0	89.36	10.64
3	O/IND/53/79	IND79A53	639	564	0	88.26	11.74
4	O/IND/R2/75*	IND75--A	639	563	0	88.11	11.89
5	O/TAI/189/87*	TAI87-AC	639	556	0	87.01	12.99
6	O/ISR/1/88	ISR88-01	193	160	5	82.90	17.10
7	O/MOR/1/91	MOR91-01	207	170	3	82.13	17.87
8	O/PHI/5/95	PHI95-05	516	415	6	80.43	19.57
9	O/HKN/6/83	HKN83-06	637	512	2	80.38	19.62
10	O1/BFS 1860/UK/67	UKG67--A	639	507	0	79.34	20.66
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/24/2003	Reported by N.J. Knowles:
Date collected: 08/07/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Cattle	Genotype/strain: PanAsia
Material used: RS1	Sequence filename: LAO03-24.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 550	
No. of ambiguities: 2	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/23/2003	LAO03-23	550	549	2	99.82	0.18
2	O/LAO/22/2003	LAO03-22	550	549	2	99.82	0.18
3	O/LAO/12/2003	LAO03-12	549	547	3	99.64	0.36
4	O/LAO/31/2003	LAO03-31	548	546	4	99.64	0.36
5	O/LAO/29/2003	LAO03-29	520	518	2	99.62	0.38
6	O/LAO/4/2003	LAO03-04	257	256	1	99.61	0.39
7	O/LAO/27/2003	LAO03-27	509	507	6	99.61	0.39
8	O/LAO/25/2003	LAO03-25	219	218	0	99.54	0.46
9	O/LAO/13/2003	LAO03-13	550	547	2	99.45	0.55
10	O/LAO/26/2003	LAO03-26	550	547	2	99.45	0.55

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	550	528	2	96.00	4.00
2	O1/Manisa/TUR/69	TUR69--E	550	493	2	89.64	10.36
3	O/IND/53/79	IND79A53	550	491	2	89.27	10.73
4	O/IND/R2/75*	IND75--A	550	485	2	88.18	11.82
5	O/TAI/189/87*	TAI87-AC	550	481	2	87.45	12.55
6	O/PHI/5/95	PHI95-05	427	349	8	81.73	18.27
7	O/ISR/1/88	ISR88-01	106	86	5	81.13	18.87
8	O/HKN/6/83	HKN83-06	548	443	4	80.84	19.16
9	O/MOR/1/91	MOR91-01	120	97	3	80.83	19.17
10	O1/BFS 1860/UK/67	UKG67--A	550	440	2	80.00	20.00

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/26/2003	Reported by N.J. Knowles:						
Date collected: 30/08/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Porcine	Genotype/strain: PanAsia						
Material used: RS1	Sequence filename: LAO03-26.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 605							
No. of ambiguities: 0							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/27/2003	LAO03-27	564	563	4	99.82	0.18
2	O/LAO/31/2003	LAO03-31	603	601	2	99.67	0.33
3	O/LAO/24/2003	LAO03-24	550	547	2	99.45	0.55
4	O/LAO/30/2003	LAO03-30	604	600	1	99.34	0.66
5	O/LAO/4/2003	LAO03-04	257	255	1	99.22	0.78
6	O/LAO/28/2003	LAO03-28	605	600	0	99.17	0.83
7	O/LAO/23/2003	LAO03-23	605	600	0	99.17	0.83
8	O/LAO/21/2003	LAO03-21	603	598	2	99.17	0.83
9	O/LAO/25/2003	LAO03-25	219	217	0	99.09	0.91
10	O/LAO/29/2003	LAO03-29	575	569	0	98.96	1.04
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	605	576	0	95.21	4.79
2	O1/Manisa/TUR/69	TUR69--E	605	541	0	89.42	10.58
3	O/IND/53/79	IND79A53	605	534	0	88.26	11.74
4	O/IND/R2/75*	IND75--A	605	532	0	87.93	12.07
5	O/TAI/189/87*	TAI87-AC	605	526	0	86.94	13.06
6	O/MOR/1/91	MOR91-01	174	142	2	81.61	18.39
7	O/ISR/1/88	ISR88-01	159	129	5	81.13	18.87
8	O/PHI/5/95	PHI95-05	482	388	6	80.50	19.50
9	O/HKN/6/83	HKN83-06	603	484	2	80.27	19.73
10	O1/BFS 1860/UK/67	UKG67--A	605	477	0	78.84	21.16
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/27/2003	Reported by N.J. Knowles:
Date collected: 16/09/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Cattle	Genotype/strain: PanAsia
Material used: BTy1	Sequence filename: LAO03-27.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 597	
No. of ambiguities: 5	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/31/2003	LAO03-31	597	596	5	99.83	0.17
2	O/LAO/26/2003	LAO03-26	564	563	4	99.82	0.18
3	O/LAO/30/2003	LAO03-30	597	595	5	99.66	0.34
4	O/LAO/24/2003	LAO03-24	509	507	6	99.61	0.39
5	O/LAO/4/2003	LAO03-04	219	218	2	99.54	0.46
6	O/LAO/28/2003	LAO03-28	597	594	5	99.50	0.50
7	O/LAO/23/2003	LAO03-23	597	594	5	99.50	0.50
8	O/LAO/21/2003	LAO03-21	595	592	7	99.50	0.50
9	O/LAO/25/2003	LAO03-25	181	180	1	99.45	0.55
10	O/LAO/11/2003	LAO03-11	597	592	5	99.16	0.84

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	597	572	5	95.81	4.19
2	O1/Manisa/TUR/69	TUR69--E	597	539	5	90.28	9.72
3	O/IND/53/79	IND79A53	597	532	5	89.11	10.89
4	O/IND/R2/75*	IND75--A	597	529	5	88.61	11.39
5	O/TAI/189/87*	TAI87-AC	597	521	5	87.27	12.73
6	O/ISR/1/88	ISR88-01	189	160	9	84.66	15.34
7	O/MOR/1/91	MOR91-01	203	170	7	83.74	16.26
8	O/PHI/5/95	PHI95-05	511	414	11	81.02	18.98
9	O/HKN/6/83	HKN83-06	595	482	7	81.01	18.99
10	O1/BFS 1860/UK/67*	UKG67--A	597	481	5	80.57	19.43

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date:	17/03/2004					
WRL Ref No: LAO/28/2003	Reported by N.J. Knowles:						
Date collected: 16/09/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Cattle	Genotype/strain: PanAsia						
Material used: BTy1	Sequence filename: LAO03-28.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 639							
No. of ambiguities: 0							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/4/2003	LAO03-04	257	256	1	99.61	0.39
2	O/LAO/25/2003	LAO03-25	219	218	0	99.54	0.46
3	O/LAO/27/2003	LAO03-27	597	594	5	99.50	0.50
4	O/LAO/31/2003	LAO03-31	636	632	3	99.37	0.63
5	O/LAO/26/2003	LAO03-26	605	600	0	99.17	0.83
6	O/LAO/24/2003	LAO03-24	550	545	2	99.09	0.91
7	O/LAO/23/2003	LAO03-23	639	633	0	99.06	0.94
8	O/LAO/30/2003	LAO03-30	638	632	1	99.06	0.94
9	O/LAO/21/2003	LAO03-21	637	631	2	99.06	0.94
10	O/LAO/13/2003	LAO03-13	639	631	0	98.75	1.25
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	639	610	0	95.46	4.54
2	O1/Manisa/TUR/69	TUR69--E	639	571	0	89.36	10.64
3	O/IND/53/79	IND79A53	639	564	0	88.26	11.74
4	O/IND/R2/75*	IND75--A	639	561	0	87.79	12.21
5	O/TAI/189/87*	TAI87-AC	639	556	0	87.01	12.99
6	O/ISR/1/88	ISR88-01	193	162	5	83.94	16.06
7	O/MOR/1/91	MOR91-01	207	172	3	83.09	16.91
8	O/PHI/5/95	PHI95-05	516	416	6	80.62	19.38
9	O/HKN/6/83	HKN83-06	637	511	2	80.22	19.78
10	O1/BFS 1860/UK/67	UKG67--A	639	509	0	79.66	20.34
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/29/2003	Reported by N.J. Knowles:
Date collected: 18/09/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Cattle	Genotype/strain: PanAsia
Material used: BTy1	Sequence filename: LAO03-29.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C583F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 608	
No. of ambiguities: 1	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/11/2003	LAO03-11	608	606	1	99.67	0.33
2	O/LAO/13/2003	LAO03-13	608	606	1	99.67	0.33
3	O/LAO/24/2003	LAO03-24	520	518	2	99.62	0.38
4	O/LAO/4/2003	LAO03-04	227	226	1	99.56	0.44
5	O/LAO/2/2003	LAO03-02	591	588	6	99.49	0.51
6	O/LAO/25/2003	LAO03-25	189	188	0	99.47	0.53
7	O/LAO/30/2003	LAO03-30	608	603	1	99.18	0.82
8	O/LAO/3/2003	LAO03-03	603	598	6	99.17	0.83
9	O/LAO/27/2003	LAO03-27	596	591	6	99.16	0.84
10	O/LAO/23/2003	LAO03-23	608	602	1	99.01	0.99

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	608	586	1	96.38	3.62
2	O1/Manisa/TUR/69	TUR69--E	608	546	1	89.80	10.20
3	O/IND/53/79	IND79A53	608	543	1	89.31	10.69
4	O/IND/R2/75*	IND75--A	608	537	1	88.32	11.68
5	O/TAI/189/87*	TAI87-AC	608	529	1	87.01	12.99
6	O/ISR/1/88	ISR88-01	192	162	6	84.38	15.63
7	O/MOR/1/91	MOR91-01	206	171	4	83.01	16.99
8	O/PHI/5/95	PHI95-05	515	417	7	80.97	19.03
9	O/HKN/6/83	HKN83-06	606	488	3	80.53	19.47
10	O1/BFS 1860/UK/67	UKG67--A	608	487	1	80.10	19.90

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/30/2003	Reported by N.J. Knowles:						
Date collected: 04/10/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Porcine	Genotype/strain: PanAsia						
Material used: RS1	Sequence filename: LAO03-30.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C583F/NK61; O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 638							
No. of ambiguities: 1							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/31/2003	LAO03-31	635	633	4	99.69	0.31
2	O/LAO/27/2003	LAO03-27	597	595	5	99.66	0.34
3	O/LAO/26/2003	LAO03-26	604	600	1	99.34	0.66
4	O/LAO/24/2003	LAO03-24	549	545	3	99.27	0.73
5	O/LAO/4/2003	LAO03-04	256	254	2	99.22	0.78
6	O/LAO/29/2003	LAO03-29	608	603	1	99.18	0.82
7	O/LAO/25/2003	LAO03-25	218	216	1	99.08	0.92
8	O/LAO/28/2003	LAO03-28	638	632	1	99.06	0.94
9	O/LAO/13/2003	LAO03-13	638	632	1	99.06	0.94
10	O/LAO/23/2003	LAO03-23	638	632	1	99.06	0.94
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	638	611	1	95.77	4.23
2	O1/Manisa/TUR/69	TUR69--E	638	573	1	89.81	10.19
3	O/IND/53/79	IND79A53	638	565	1	88.56	11.44
4	O/IND/R2/75*	IND75--A	638	564	1	88.40	11.60
5	O/TAI/189/87*	TAI87-AC	638	557	1	87.30	12.70
6	O/ISR/1/88	ISR88-01	193	164	5	84.97	15.03
7	O/MOR/1/91	MOR91-01	207	174	3	84.06	15.94
8	O/PHI/5/95	PHI95-05	516	418	6	81.01	18.99
9	O/HKN/6/83	HKN83-06	636	515	3	80.97	19.03
10	O1/BFS 1860/UK/67	UKG67--A	638	506	1	79.31	20.69
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/31/2003	Reported by N.J. Knowles:
Date collected: 04/10/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Porcine	Genotype/strain: PanAsia
Material used: RS1	Sequence filename: LAO03-31.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 636	
No. of ambiguities: 3	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/27/2003	LAO03-27	597	596	5	99.83	0.17
2	O/LAO/30/2003	LAO03-30	635	633	4	99.69	0.31
3	O/LAO/26/2003	LAO03-26	603	601	2	99.67	0.33
4	O/LAO/24/2003	LAO03-24	548	546	4	99.64	0.36
5	O/LAO/4/2003	LAO03-04	255	254	3	99.61	0.39
6	O/LAO/25/2003	LAO03-25	217	216	2	99.54	0.46
7	O/LAO/23/2003	LAO03-23	636	632	3	99.37	0.63
8	O/LAO/28/2003	LAO03-28	636	632	3	99.37	0.63
9	O/LAO/21/2003	LAO03-21	634	630	5	99.37	0.63
10	O/LAO/13/2003	LAO03-13	636	630	3	99.06	0.94

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	636	607	3	95.44	4.56
2	O1/Manisa/TUR/69	TUR69--E	636	571	3	89.78	10.22
3	O/IND/53/79	IND79A53	636	562	3	88.36	11.64
4	O/IND/R2/75*	IND75--A	636	561	3	88.21	11.79
5	O/TAI/189/87*	TAI87-AC	636	556	3	87.42	12.58
6	O/ISR/1/88	ISR88-01	192	162	6	84.38	15.63
7	O/MOR/1/91	MOR91-01	206	172	4	83.50	16.50
8	O/PHI/5/95	PHI95-05	515	417	7	80.97	19.03
9	O/HKN/6/83	HKN83-06	634	512	5	80.76	19.24
10	O1/BFS 1860/UK/67	UKG67--A	636	505	3	79.40	20.60

nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/32/2003	Reported by N.J. Knowles:						
Date collected: 04/10/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: ME-SA						
Species: Porcine	Genotype/strain: PanAsia						
Material used: RS1	Sequence filename: LAO03-32.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 597							
No. of ambiguities: 8							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/31/2003	LAO03-31	597	590	8	98.83	1.17
2	O/LAO/27/2003	LAO03-27	589	582	12	98.81	1.19
3	O/LAO/26/2003	LAO03-26	570	563	2	98.77	1.23
4	O/LAO/30/2003	LAO03-30	597	589	8	98.66	1.34
5	O/LAO/24/2003	LAO03-24	515	507	4	98.45	1.55
6	O/LAO/4/2003	LAO03-04	223	219	2	98.21	1.79
7	O/LAO/28/2003	LAO03-28	597	586	8	98.16	1.84
8	O/LAO/23/2003	LAO03-23	597	586	8	98.16	1.84
9	O/LAO/21/2003	LAO03-21	595	584	10	98.15	1.85
10	O/LAO/22/2003	LAO03-22	571	559	5	97.90	2.10
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	597	564	8	94.47	5.53
2	O1/Manisa/TUR/69	TUR69--E	597	535	8	89.61	10.39
3	O/IND/53/79	IND79A53	597	525	8	87.94	12.06
4	O/IND/R2/75*	IND75--A	597	522	8	87.44	12.56
5	O/TAI/189/87*	TAI87-AC	597	518	8	86.77	13.23
6	O/MOR/1/91	MOR91-01	200	169	9	84.50	15.50
7	O/ISR/1/88	ISR88-01	185	156	12	84.32	15.68
8	O/PHI/5/95	PHI95-05	508	410	13	80.71	19.29
9	O/HKN/6/83	HKN83-06	595	478	10	80.34	19.66
10	O1/BFS 1860/UK/67	UKG67--A	597	473	8	79.23	20.77
nt, nucleotides							
*, not a WRLFMD reference number							

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004
WRL Ref No: LAO/34/2003	Reported by N.J. Knowles:
Date collected: 29/11/2003	Validated by J.-F. Valarcher:
Date received: 17/12/2003	Topotype: ME-SA
Species: Cattle	Genotype/strain: PanAsia
Material used: BTy1	Sequence filename: LAO03-34.SEQ
Region sequenced: VP1	Date sequence last updated: 17/03/2004
RT-PCR primers: O-1C244F/NK61	Total no. of comparisons: 1375
No. of Nt determined: 605	
No. of ambiguities: 0	
Gene length: 639	

Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/33/2003	LAO03-33	257	257	1	100.00	0.00
2	O/Kinmen/TAW/99	TAW99--A	131	128	0	97.71	2.29
3	O/IND/209/99* (1998)	IND98-AU	131	128	0	97.71	2.29
4	O/IND/289/97*	IND97-AW	131	128	0	97.71	2.29
5	O/IND/61/97* (1996)	IND96-AB	131	128	0	97.71	2.29
6	O/LAO/2/2000	LAO00-02	605	587	0	97.02	2.98
7	O/LAO/1/2000	LAO00-01	601	583	4	97.00	3.00
8	O/IND/54/98	IND98-AA	131	127	0	96.95	3.05
9	O/IND/65/98	IND98-AF	131	127	0	96.95	3.05
10	O/IND/56/98	IND98-AC	131	127	0	96.95	3.05

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAW/2/99	TAW99-02	605	582	0	96.20	3.80
2	O/IND/53/79	IND79A53	605	541	0	89.42	10.58
3	O/IND/R2/75*	IND75--A	605	536	0	88.60	11.40
4	O1/Manisa/TUR/69	TUR69--E	605	533	0	88.10	11.90
5	O/TAI/189/87*	TAI87-AC	605	530	0	87.60	12.40
6	O/MOR/1/91	MOR91-01	174	146	2	83.91	16.09
7	O/ISR/1/88	ISR88-01	159	132	5	83.02	16.98
8	O/HKN/6/83	HKN83-06	603	487	2	80.76	19.24
9	O/PHI/5/95	PHI95-05	482	389	6	80.71	19.29
10	O1/BFS 1860/UK/67	UKG67--A	605	485	0	80.17	19.83

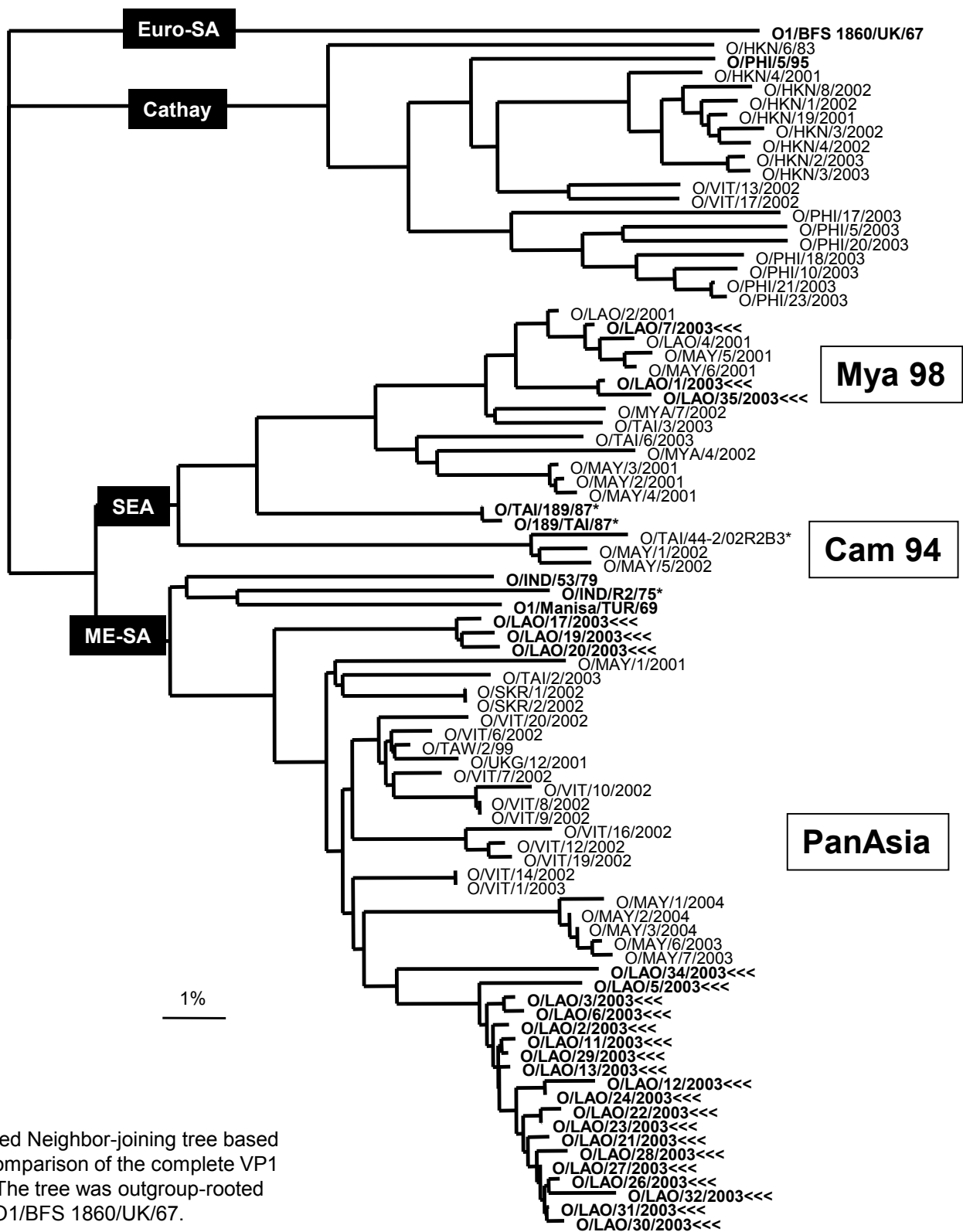
nt, nucleotides

*, not a WRLFMD reference number

**Report from the Molecular Epidemiology Section of the Dept. of Exotic Disease Control to
the Head of the World Reference Laboratory for FMD (Non-QAU Form)**

Serotype: O	Report date: 17/03/2004						
WRL Ref No: LAO/35/2003	Reported by N.J. Knowles:						
Date collected: 03/12/2003	Validated by J.-F. Valarcher:						
Date received: 17/12/2003	Topotype: SEA						
Species: Cattle	Genotype/strain: Mya98						
Material used: BTy1	Sequence filename: LAO03-35.SEQ						
Region sequenced: VP1	Date sequence last updated: 17/03/2004						
RT-PCR primers: O-1C272F/NK61	Total no. of comparisons: 1375						
No. of Nt determined: 623							
No. of ambiguities: 1							
Gene length: 639							
Comments:							
Ten Most Closely Related Viruses							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/LAO/1/2003	LAO03-01	528	523	13	99.05	0.95
2	O/LAO/7/2003	LAO03-07	597	581	5	97.32	2.68
3	O/LAO/4/2001	LAO01-04	623	606	1	97.27	2.73
4	O/LAO/2/2001	LAO01-02	615	595	9	96.75	3.25
5	O/MAY/6/2001	MAY01-06	623	601	1	96.47	3.53
6	O/MAY/5/2001	MAY01-05	623	601	1	96.47	3.53
7	O/MYA/7/2002	MYA02-07	623	595	1	95.51	4.49
8	O/TAI/3/2003	TAI03-03	623	593	1	95.18	4.82
9	O/MYA/6/98	MYA98-06	194	182	10	93.81	6.19
10	O/MYA/4/98	MYA98-04	351	327	8	93.16	6.84
Relationships to Reference Virus Strains							
Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	O/TAI/189/87*	TAI87-AC	623	559	1	89.73	10.27
2	O/TAW/2/99	TAW99-02	623	533	1	85.55	14.45
3	O/IND/R2/75*	IND75--A	623	530	1	85.07	14.93
4	O/IND/53/79	IND79A53	623	524	1	84.11	15.89
5	O1/Manisa/TUR/69	TUR69--E	623	522	1	83.79	16.21
6	O/MOR/1/91	MOR91-01	201	164	3	81.59	18.41
7	O/ISR/1/88	ISR88-01	187	149	5	79.68	20.32
8	O1/BFS 1860/UK/67	UKG67--A	623	488	1	78.33	21.67
9	O/PHI/5/95	PHI95-05	509	397	7	78.00	22.00
10	O/HKN/6/83	HKN83-06	621	480	3	77.29	22.71
nt, nucleotides							
*, not a WRLFMD reference number							

Report on: O LAO PDR 2003



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.