

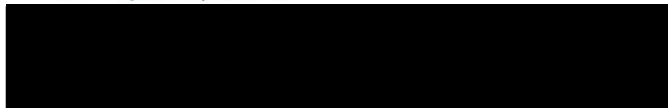


INSTITUTE FOR ANIMAL HEALTH
Director: Professor Martin W. Shirley, PhD
PIRBRIGHT LABORATORY
Ash Road,
Pirbright,
Surrey,
GU24 0NF
Intn Tel: 00 44 1483 232441
Tel: 01483 232441 Fax: 01483 232621

FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00041

Sender Details:



Date Received: 24th November 2010

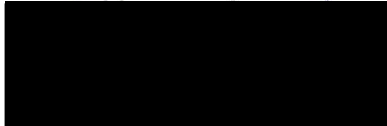
Country of Origin: Nepal

Date Reported: 4th January 2011

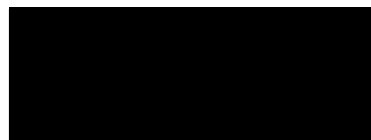
Dear Dr. Vijay Chandra Jha,

Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at: <http://www.wrlfmd.org/>

Results Approved By:



Official Stamp:



Date:

6/1/11.



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.wilson@bbsrc.ac.uk)

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

Genotyping Report

Report Date for this Batch: 20 December 2010

FMDV type O

Country: Nepal

Period: 2010

No. of isolates: 10

BATCH: WRLFMD/2010/00041



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/3/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (3)	
Location: Nuwakot, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-03.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	638	0	99.84	0.16	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	638	0	99.84	0.16	ME-SA	Ind-2001d
3	O/BHU/4/2009	BHU09-04	639	638	0	99.84	0.16	ME-SA	Ind-2001d
4	O/BHU/5/2009	BHU09-05	639	638	0	99.84	0.16	ME-SA	Ind-2001d
5	O/BHU/6/2009	BHU09-06	639	638	0	99.84	0.16	ME-SA	Ind-2001d
6	O/NEP/17/2010	NEP10-17	639	638	0	99.84	0.16	ME-SA	Ind-2001d
7	O/NEP/5/2010	NEP10-05	639	638	0	99.84	0.16	ME-SA	Ind-2001d
8	O/NEP/6/2010	NEP10-06	639	638	0	99.84	0.16	ME-SA	Ind-2001d
9	O/BAN/26/2009	BAN09-26	639	637	0	99.69	0.31	ME-SA	Ind-2001d
10	O/BAN/27/2009	BAN09-27	639	637	0	99.69	0.31	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	636	0	99.53	0.47	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	598	0	93.58	6.42	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	595	0	93.11	6.89	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	583	0	91.67	8.33	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	578	1	90.60	9.40	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	573	0	89.67	10.33	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	570	0	89.20	10.80	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/8/2005	IRN05-08	639	569	0	89.05	10.95	ME-SA	PanAsia-2
10	O/PAK/16/2010	PAK10-16	639	568	0	88.89	11.11	ME-SA	PanAsia-2 ^{PUN-10}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/5/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (5)	
Location: Dang, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-05.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	639	0	100.00	0.00	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	639	0	100.00	0.00	ME-SA	Ind-2001d
3	O/BHU/4/2009	BHU09-04	639	639	0	100.00	0.00	ME-SA	Ind-2001d
4	O/BHU/5/2009	BHU09-05	639	639	0	100.00	0.00	ME-SA	Ind-2001d
5	O/BHU/6/2009	BHU09-06	639	639	0	100.00	0.00	ME-SA	Ind-2001d
6	O/NEP/17/2010	NEP10-17	639	639	0	100.00	0.00	ME-SA	Ind-2001d
7	O/NEP/6/2010	NEP10-06	639	639	0	100.00	0.00	ME-SA	Ind-2001d
8	O/BAN/26/2009	BAN09-26	639	638	0	99.84	0.16	ME-SA	Ind-2001d
9	O/BAN/27/2009	BAN09-27	639	638	0	99.84	0.16	ME-SA	Ind-2001d
10	O/BHU/10/2009	BHU09-10	639	638	0	99.84	0.16	ME-SA	Ind-2001d

Most Closely Related Reference Viruses

(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	637	0	99.69	0.31	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	597	0	93.43	6.57	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	596	0	93.27	6.73	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	584	0	91.82	8.18	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	579	1	90.75	9.25	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	572	0	89.51	10.49	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/8/2005	IRN05-08	639	570	0	89.20	10.80	ME-SA	PanAsia-2
10	O/IRN/18/2010	IRN10-18	639	568	0	88.89	11.11	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/6/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (6)	
Location: Dang, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-06.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	639	0	100.00	0.00	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	639	0	100.00	0.00	ME-SA	Ind-2001d
3	O/BHU/4/2009	BHU09-04	639	639	0	100.00	0.00	ME-SA	Ind-2001d
4	O/BHU/5/2009	BHU09-05	639	639	0	100.00	0.00	ME-SA	Ind-2001d
5	O/BHU/6/2009	BHU09-06	639	639	0	100.00	0.00	ME-SA	Ind-2001d
6	O/NEP/17/2010	NEP10-17	639	639	0	100.00	0.00	ME-SA	Ind-2001d
7	O/NEP/5/2010	NEP10-05	639	639	0	100.00	0.00	ME-SA	Ind-2001d
8	O/BAN/26/2009	BAN09-26	639	638	0	99.84	0.16	ME-SA	Ind-2001d
9	O/BAN/27/2009	BAN09-27	639	638	0	99.84	0.16	ME-SA	Ind-2001d
10	O/BHU/10/2009	BHU09-10	639	638	0	99.84	0.16	ME-SA	Ind-2001d

Most Closely Related Reference Viruses

(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	637	0	99.69	0.31	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	597	0	93.43	6.57	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	596	0	93.27	6.73	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	584	0	91.82	8.18	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	579	1	90.75	9.25	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	572	0	89.51	10.49	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/8/2005	IRN05-08	639	570	0	89.20	10.80	ME-SA	PanAsia-2
10	O/IRN/18/2010	IRN10-18	639	568	0	88.89	11.11	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/7/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (7)	
Location: Dang, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-07.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	637	0	99.69	0.31	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	637	0	99.69	0.31	ME-SA	Ind-2001d
3	O/BHU/4/2009	BHU09-04	639	637	0	99.69	0.31	ME-SA	Ind-2001d
4	O/BHU/5/2009	BHU09-05	639	637	0	99.69	0.31	ME-SA	Ind-2001d
5	O/BHU/6/2009	BHU09-06	639	637	0	99.69	0.31	ME-SA	Ind-2001d
6	O/NEP/17/2010	NEP10-17	639	637	0	99.69	0.31	ME-SA	Ind-2001d
7	O/NEP/5/2010	NEP10-05	639	637	0	99.69	0.31	ME-SA	Ind-2001d
8	O/NEP/6/2010	NEP10-06	639	637	0	99.69	0.31	ME-SA	Ind-2001d
9	O/BAN/26/2009	BAN09-26	639	636	0	99.53	0.47	ME-SA	Ind-2001d
10	O/BAN/27/2009	BAN09-27	639	636	0	99.53	0.47	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	635	0	99.37	0.63	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	597	0	93.43	6.57	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	596	0	93.27	6.73	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	586	0	92.14	7.86	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	579	1	90.75	9.25	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	573	0	89.67	10.33	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	572	0	89.51	10.49	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	569	0	89.05	10.95	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/18/2010	IRN10-18	639	568	0	88.89	11.11	ME-SA	PanAsia-2 ^{BAL-09}
10	O/IRN/8/2005	IRN05-08	639	568	0	88.89	11.11	ME-SA	PanAsia-2

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/9/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (9)	
Location: Ramechhap, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-09.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	633	0	99.06	0.94	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	633	0	99.06	0.94	ME-SA	Ind-2001d
3	O/BHU/4/2009	BHU09-04	639	633	0	99.06	0.94	ME-SA	Ind-2001d
4	O/BHU/5/2009	BHU09-05	639	633	0	99.06	0.94	ME-SA	Ind-2001d
5	O/BHU/6/2009	BHU09-06	639	633	0	99.06	0.94	ME-SA	Ind-2001d
6	O/NEP/17/2010	NEP10-17	639	633	0	99.06	0.94	ME-SA	Ind-2001d
7	O/NEP/5/2010	NEP10-05	639	633	0	99.06	0.94	ME-SA	Ind-2001d
8	O/NEP/6/2010	NEP10-06	639	633	0	99.06	0.94	ME-SA	Ind-2001d
9	O/BAN/26/2009	BAN09-26	639	632	0	98.90	1.10	ME-SA	Ind-2001d
10	O/BAN/27/2009	BAN09-27	639	632	0	98.90	1.10	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	631	0	98.75	1.25	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	594	0	92.96	7.04	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	592	0	92.64	7.36	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	581	0	91.35	8.65	ME-SA	Ind-2001c
5	O/IRN/31/2009	IRN09-31	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{FAR-09}
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	573	1	89.81	10.19	ME-SA	Irn-2001
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	571	0	89.36	10.64	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	570	0	89.20	10.80	ME-SA	PanAsia-2 ^{TER-08}
9	O/TUR/264/2009* (FMDI)	TUR09-AK	639	569	0	89.05	10.95	ME-SA	PanAsia-2 ^{SAN-09}
10	O/IRN/18/2010	IRN10-18	639	567	0	88.73	11.27	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/11/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (11)	
Location: Dhankuta, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-11.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	633	0	99.06	0.94	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	633	0	99.06	0.94	ME-SA	Ind-2001d
3	O/BHU/26/2009	BHU09-26	639	633	0	99.06	0.94	ME-SA	Ind-2001d
4	O/BHU/4/2009	BHU09-04	639	633	0	99.06	0.94	ME-SA	Ind-2001d
5	O/BHU/5/2009	BHU09-05	639	633	0	99.06	0.94	ME-SA	Ind-2001d
6	O/BHU/6/2009	BHU09-06	639	633	0	99.06	0.94	ME-SA	Ind-2001d
7	O/NEP/17/2010	NEP10-17	639	633	0	99.06	0.94	ME-SA	Ind-2001d
8	O/NEP/5/2010	NEP10-05	639	633	0	99.06	0.94	ME-SA	Ind-2001d
9	O/NEP/6/2010	NEP10-06	639	633	0	99.06	0.94	ME-SA	Ind-2001d
10	O/BAN/26/2009	BAN09-26	639	632	0	98.90	1.10	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	631	0	98.75	1.25	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	593	0	92.80	7.20	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	592	0	92.64	7.36	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	580	0	91.19	8.81	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	576	1	90.28	9.72	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	572	0	89.51	10.49	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	571	0	89.36	10.64	ME-SA	PanAsia
8	O/IRN/8/2005	IRN05-08	639	569	0	89.05	10.95	ME-SA	PanAsia-2
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	568	0	88.89	11.11	ME-SA	PanAsia-2 ^{TER-08}
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	566	0	88.58	11.42	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/12/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (12)	
Location: Not known, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-12.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Not Known	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BAN/28/2009	BAN09-28	639	634	0	99.22	0.78	ME-SA	Ind-2001d
2	O/BAN/29/2009	BAN09-29	639	634	0	99.22	0.78	ME-SA	Ind-2001d
3	O/BAN/30/2009	BAN09-30	639	634	0	99.22	0.78	ME-SA	Ind-2001d
4	O/BAN/31/2009	BAN09-31	639	634	0	99.22	0.78	ME-SA	Ind-2001d
5	O/BHU/18/2009	BHU09-18	639	634	0	99.22	0.78	ME-SA	Ind-2001d
6	O/BHU/2/2009	BHU09-02	639	634	0	99.22	0.78	ME-SA	Ind-2001d
7	O/BHU/4/2009	BHU09-04	639	634	0	99.22	0.78	ME-SA	Ind-2001d
8	O/BHU/5/2009	BHU09-05	639	634	0	99.22	0.78	ME-SA	Ind-2001d
9	O/BHU/6/2009	BHU09-06	639	634	0	99.22	0.78	ME-SA	Ind-2001d
10	O/NEP/17/2010	NEP10-17	639	634	0	99.22	0.78	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	632	0	98.90	1.10	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	596	0	93.27	6.73	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	595	0	93.11	6.89	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	585	0	91.98	8.02	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	580	1	90.91	9.09	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	573	0	89.67	10.33	ME-SA	PanAsia
8	O/PAK/16/2010	PAK10-16	639	570	0	89.20	10.80	ME-SA	PanAsia-2 ^{PUN-10}
9	O/TUR/257/2008* (FMDI)	TUR08-AD	639	570	0	89.20	10.80	ME-SA	PanAsia-2 ^{TER-08}
10	O/IRN/18/2010	IRN10-18	639	569	0	89.05	10.95	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/15/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (15)	
Location: Synja, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-15.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/NEP/16/2010	NEP10-16	639	639	0	100.00	0.00	ME-SA	Ind-2001d
2	O/BHU/18/2009	BHU09-18	639	637	0	99.69	0.31	ME-SA	Ind-2001d
3	O/BHU/2/2009	BHU09-02	639	637	0	99.69	0.31	ME-SA	Ind-2001d
4	O/BHU/4/2009	BHU09-04	639	637	0	99.69	0.31	ME-SA	Ind-2001d
5	O/BHU/5/2009	BHU09-05	639	637	0	99.69	0.31	ME-SA	Ind-2001d
6	O/BHU/6/2009	BHU09-06	639	637	0	99.69	0.31	ME-SA	Ind-2001d
7	O/NEP/17/2010	NEP10-17	639	637	0	99.69	0.31	ME-SA	Ind-2001d
8	O/NEP/5/2010	NEP10-05	639	637	0	99.69	0.31	ME-SA	Ind-2001d
9	O/NEP/6/2010	NEP10-06	639	637	0	99.69	0.31	ME-SA	Ind-2001d
10	O/BAN/26/2009	BAN09-26	639	636	0	99.53	0.47	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	635	0	99.37	0.63	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	597	0	93.43	6.57	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	596	0	93.27	6.73	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	584	0	91.82	8.18	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	579	1	90.75	9.25	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	572	0	89.51	10.49	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/8/2005	IRN05-08	639	570	0	89.20	10.80	ME-SA	PanAsia-2
10	O/PAK/16/2010	PAK10-16	639	570	0	89.20	10.80	ME-SA	PanAsia-2 ^{PUN-10}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/16/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (16)	
Location: Synja, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-16.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/NEP/15/2010	NEP10-15	639	639	0	100.00	0.00	ME-SA	Ind-2001d
2	O/BHU/18/2009	BHU09-18	639	637	0	99.69	0.31	ME-SA	Ind-2001d
3	O/BHU/2/2009	BHU09-02	639	637	0	99.69	0.31	ME-SA	Ind-2001d
4	O/BHU/4/2009	BHU09-04	639	637	0	99.69	0.31	ME-SA	Ind-2001d
5	O/BHU/5/2009	BHU09-05	639	637	0	99.69	0.31	ME-SA	Ind-2001d
6	O/BHU/6/2009	BHU09-06	639	637	0	99.69	0.31	ME-SA	Ind-2001d
7	O/NEP/17/2010	NEP10-17	639	637	0	99.69	0.31	ME-SA	Ind-2001d
8	O/NEP/5/2010	NEP10-05	639	637	0	99.69	0.31	ME-SA	Ind-2001d
9	O/NEP/6/2010	NEP10-06	639	637	0	99.69	0.31	ME-SA	Ind-2001d
10	O/BAN/26/2009	BAN09-26	639	636	0	99.53	0.47	ME-SA	Ind-2001d
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	635	0	99.37	0.63	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	597	0	93.43	6.57	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	596	0	93.27	6.73	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	584	0	91.82	8.18	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	579	1	90.75	9.25	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	572	0	89.51	10.49	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/8/2005	IRN05-08	639	570	0	89.20	10.80	ME-SA	PanAsia-2
10	O/PAK/16/2010	PAK10-16	639	570	0	89.20	10.80	ME-SA	PanAsia-2 ^{PUN-10}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 20/12/2010
WRLFMD Ref No: NEP/17/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00041	Checked by: D.P. King
Sender Ref: 2009/10 (17)	
Location: Kathmandu, Nepal	Topotype: ME-SA
Date collected: 01/01/2010	Genotype/strain: Ind-2001d
Date received by WRLFMD: 24/11/2010	Sequence filename: NEP10-17.SEQ
Date received for sequencing: 13/12/2010	Date sequence last updated: 17/12/2010
Species: Pig	No. of Nt determined: 639
Material used: RS1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2528
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/18/2009	BHU09-18	639	639	0	100.00	0.00	ME-SA	Ind-2001d
2	O/BHU/2/2009	BHU09-02	639	639	0	100.00	0.00	ME-SA	Ind-2001d
3	O/BHU/4/2009	BHU09-04	639	639	0	100.00	0.00	ME-SA	Ind-2001d
4	O/BHU/5/2009	BHU09-05	639	639	0	100.00	0.00	ME-SA	Ind-2001d
5	O/BHU/6/2009	BHU09-06	639	639	0	100.00	0.00	ME-SA	Ind-2001d
6	O/NEP/5/2010	NEP10-05	639	639	0	100.00	0.00	ME-SA	Ind-2001d
7	O/NEP/6/2010	NEP10-06	639	639	0	100.00	0.00	ME-SA	Ind-2001d
8	O/BAN/26/2009	BAN09-26	639	638	0	99.84	0.16	ME-SA	Ind-2001d
9	O/BAN/27/2009	BAN09-27	639	638	0	99.84	0.16	ME-SA	Ind-2001d
10	O/BHU/10/2009	BHU09-10	639	638	0	99.84	0.16	ME-SA	Ind-2001d

Most Closely Related Reference Viruses

(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/BHU/3/2009	BHU09-03	639	637	0	99.69	0.31	ME-SA	Ind-2001d
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	597	0	93.43	6.57	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	596	0	93.27	6.73	ME-SA	Ind-2001b
4	O/UAE/4/2008	UAE08-04	636	584	0	91.82	8.18	ME-SA	Ind-2001c
5	O/IRN/61/2001 (DQ164896)	IRN01-61	638	579	1	90.75	9.25	ME-SA	Irn-2001
6	O/IRN/31/2009	IRN09-31	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{FAR-09}
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	572	0	89.51	10.49	ME-SA	PanAsia
8	O/TUR/257/2008* (FMDI)	TUR08-AD	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{TER-08}
9	O/IRN/8/2005	IRN05-08	639	570	0	89.20	10.80	ME-SA	PanAsia-2
10	O/IRN/18/2010	IRN10-18	639	568	0	88.89	11.11	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV O in Nepal in 2010

Batch: WRLFMD/2010/00041

Software: MEGA 4.0
 No. of Taxa : 111
 Data File : n:\levd\meg\db\fmv\o\NEP2010a.meg
 Data Title : O Nepal 2010
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (1000 replicates; seed=64843)
 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 & J. Wadsworth, 20 December 2010

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