



INSTITUTE FOR ANIMAL HEALTH

Acting Director: Professor David Paton MA, VetMB, PhD, MRCVS

PIRBRIGHT LABORATORY

Ash Road,

Pirbright,

Surrey,

GU24 0NF

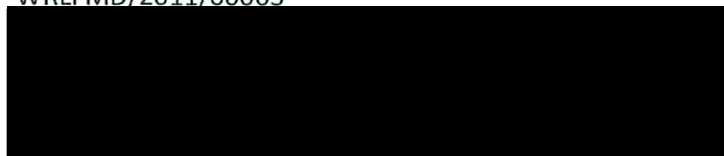
Intn Tel: 00 44 1483 232441

Tel: 01483 232441 Fax: 01483 232621

FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2011/00003

Sender Details:



Date Received: 18th January 2011

Country of Origin: Pakistan

Date Reported: 8th March 2011

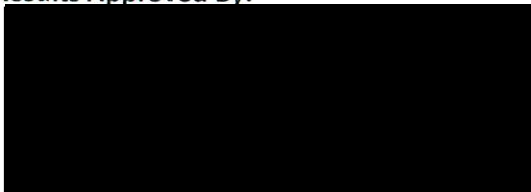
Dear Dr. E. Ul Haq Khan,

Re: Serotype O

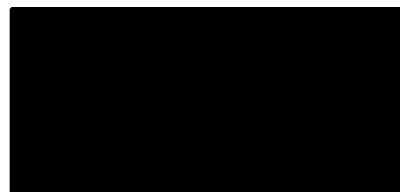
Sequencing work has now been completed in respect of the samples you submitted and the details are as attached. Please note that all of our phylogenetic trees can be accessed via the internet at:

<http://www.wrlfmd.org/>

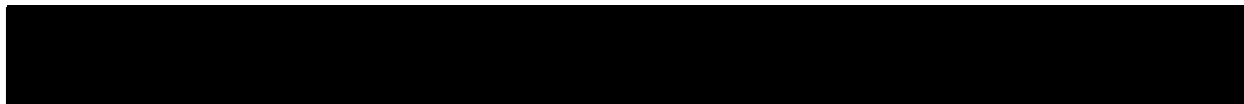
Results Approved By:



Official Stamp:



Date: 9/3/2011



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: 7 March 2011

FMDV type O

Country: Pakistan

Period: 2010-2011

No. of samples: 38

BATCH: WRLFMD/2011/00003



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FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/77/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW10	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 18/11/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-77.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.0

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/78/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW11	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 18/11/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-78.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/79/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW12	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 18/11/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-79.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/80/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW18	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 22/11/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-80.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/81/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW19	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 22/11/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-81.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/78/2010	PAK10-78	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/79/2010	PAK10-79	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/80/2010	PAK10-80	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/88/2010	PAK10-88	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/89/2010	PAK10-89	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/98/2010	PAK10-98	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/102/2010	PAK10102	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/1/2011	PAK11-01	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	597	0	93.43	6.57	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-09}
6	O/PAK/16/2010	PAK10-16	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{PUN-10}
7	O/IRN/18/2010	IRN10-18	639	588	0	92.02	7.98	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	578	0	90.45	9.55	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	568	0	88.89	11.11	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.0

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FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/83/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PFDA1	
Location: Faisalabad, Punjab, Pakistan	Topotype: ME-SA
Date collected: 28/11/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-83.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/IRN/100/2010	IRN10100	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/101/2010	IRN10101	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/142/2010	IRN10142	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/20/2010	IRN10-20	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/33/2010	IRN10-33	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/34/2010	IRN10-34	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/37/2010	IRN10-37	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/38/2010	IRN10-38	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/39/2010	IRN10-39	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/40/2010	IRN10-40	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	578	0	90.45	9.55	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/84/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG20	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 01/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-84.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/85/2010	PAK10-85	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/100/2010	IRN10100	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/101/2010	IRN10101	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/142/2010	IRN10142	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/20/2010	IRN10-20	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/33/2010	IRN10-33	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/34/2010	IRN10-34	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/37/2010	IRN10-37	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/38/2010	IRN10-38	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/39/2010	IRN10-39	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	605	0	94.68	5.32	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	605	0	94.68	5.32	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	603	0	94.37	5.63	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/85/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG21	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 01/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-85.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/84/2010	PAK10-84	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/100/2010	IRN10100	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/101/2010	IRN10101	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/142/2010	IRN10142	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/20/2010	IRN10-20	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/33/2010	IRN10-33	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/34/2010	IRN10-34	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/37/2010	IRN10-37	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/38/2010	IRN10-38	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/39/2010	IRN10-39	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	568	1	89.03	10.97	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/86/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG22	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 01/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-86.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/94/2010	PAK10-94	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/95/2010	PAK10-95	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/59/2010	AFG10-59	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
4	O/AFG/61/2010	AFG10-61	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/83/2010	AFG10-83	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/89/2010	AFG10-89	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/30/2010	IRN10-30	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/4/2010	IRN10-04	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/71/2010	IRN10-71	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/96/2010	IRN10-96	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	603	0	94.37	5.63	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	571	0	89.36	10.64	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/87/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG23	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 01/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-87.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/92/2010	PAK10-92	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/86/2010	PAK10-86	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/94/2010	PAK10-94	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/95/2010	PAK10-95	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/83/2010	AFG10-83	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/59/2010	AFG10-59	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/61/2010	AFG10-61	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
8	O/AFG/89/2010	AFG10-89	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/30/2010	IRN10-30	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/4/2010	IRN10-04	639	628	0	98.28	1.72	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	570	0	89.20	10.80	ME-SA	Ind-2001a
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	568	0	88.89	11.11	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/88/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW14	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-88.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/89/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW15	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-89.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/90/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG24	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-90.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/106/2010	PAK10106	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/112/2010	PAK10112	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/77/2010	PAK10-77	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/78/2010	PAK10-78	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/79/2010	PAK10-79	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/80/2010	PAK10-80	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/88/2010	PAK10-88	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/89/2010	PAK10-89	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/98/2010	PAK10-98	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/102/2010	PAK10102	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	579	0	90.61	9.39	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/92/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG26	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-92.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/87/2010	PAK10-87	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/86/2010	PAK10-86	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/94/2010	PAK10-94	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/95/2010	PAK10-95	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/83/2010	AFG10-83	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/59/2010	AFG10-59	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/61/2010	AFG10-61	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
8	O/AFG/89/2010	AFG10-89	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/30/2010	IRN10-30	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/4/2010	IRN10-04	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	625	0	97.81	2.19	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	580	0	90.77	9.23	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	569	0	89.05	10.95	ME-SA	Ind-2001a
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	567	0	88.73	11.27	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/93/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG27	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-93.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/IRN/100/2010	IRN10100	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/101/2010	IRN10101	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/142/2010	IRN10142	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/20/2010	IRN10-20	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/33/2010	IRN10-33	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/34/2010	IRN10-34	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/37/2010	IRN10-37	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/38/2010	IRN10-38	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/39/2010	IRN10-39	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/59/2010	IRN10-59	639	634	0	99.22	0.78	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	604	0	94.52	5.48	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	602	0	94.21	5.79	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	585	0	91.55	8.45	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/94/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG28	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-94.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/86/2010	PAK10-86	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/95/2010	PAK10-95	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/59/2010	AFG10-59	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
4	O/AFG/61/2010	AFG10-61	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/83/2010	AFG10-83	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/89/2010	AFG10-89	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/30/2010	IRN10-30	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/4/2010	IRN10-04	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/71/2010	IRN10-71	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/96/2010	IRN10-96	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	603	0	94.37	5.63	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	571	0	89.36	10.64	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/95/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG29	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-95.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/86/2010	PAK10-86	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/94/2010	PAK10-94	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/AFG/59/2010	AFG10-59	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
4	O/AFG/61/2010	AFG10-61	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/83/2010	AFG10-83	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/89/2010	AFG10-89	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/30/2010	IRN10-30	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/4/2010	IRN10-04	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/71/2010	IRN10-71	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/96/2010	IRN10-96	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	608	0	95.15	4.85	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	604	0	94.52	5.48	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	603	0	94.37	5.63	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	586	0	91.71	8.29	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	571	0	89.36	10.64	ME-SA	Ind-2001a
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/96/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PSG30	
Location: Sargodha, Punjab, Pakistan	Topotype: ME-SA
Date collected: 07/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-96.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/IRN/93/2010	IRN10-93	639	627	0	98.12	1.88	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/100/2010	IRN10100	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
3	O/IRN/101/2010	IRN10101	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
4	O/IRN/142/2010	IRN10142	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
5	O/IRN/156/2010	IRN10156	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/20/2010	IRN10-20	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
7	O/IRN/33/2010	IRN10-33	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/34/2010	IRN10-34	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
9	O/IRN/37/2010	IRN10-37	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/38/2010	IRN10-38	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	625	0	97.81	2.19	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	594	0	92.96	7.04	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	586	0	91.71	8.29	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Irn-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/98/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW16	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 10/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-98.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/112/2010	PAK10112	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/99/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW17	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 10/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10-99.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/100/2010	PAK10100	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/53/2010	PAK10-53	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/54/2010	PAK10-54	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/60/2010	PAK10-60	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/61/2010	PAK10-61	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/68/2010	PAK10-68	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/71/2010	PAK10-71	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/74/2010	PAK10-74	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/75/2010	PAK10-75	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/76/2010	PAK10-76	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	626	0	97.97	2.03	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/18/2010	IRN10-18	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	589	0	92.18	7.82	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	576	0	90.14	9.86	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	568	0	88.89	11.11	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	567	1	88.87	11.13	ME-SA	Irn-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/100/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PISB9	
Location: Islamabad, Federal Area, Pakistan	Topotype: ME-SA
Date collected: 11/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10100.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/53/2010	PAK10-53	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/54/2010	PAK10-54	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/60/2010	PAK10-60	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/61/2010	PAK10-61	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/68/2010	PAK10-68	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/71/2010	PAK10-71	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/75/2010	PAK10-75	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/76/2010	PAK10-76	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/74/2010	PAK10-74	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/IRN/191/2010	IRN10191	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/IRN/61/2001 (DQ164896)	IRN01-61	638	569	1	89.18	10.82	ME-SA	Iran-2001

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/101/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PISB10	
Location: Islamabad, Federal Area, Pakistan	Topotype: ME-SA
Date collected: 11/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10101.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/51/2010	PAK10-51	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/57/2010	PAK10-57	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/67/2010	PAK10-67	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/62/2010	PAK10-62	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/AFG/59/2010	AFG10-59	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/AFG/61/2010	AFG10-61	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/AFG/89/2010	AFG10-89	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/IRN/96/2010	IRN10-96	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/42/2010	PAK10-42	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/AFG/32/2010	AFG10-32	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	610	0	95.46	4.54	ME-SA	PanAsia-2
3	O/IRN/31/2009	IRN09-31	639	606	0	94.84	5.16	ME-SA	PanAsia-2 ^{FAR-09}
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	606	0	94.84	5.16	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{BAL-09}
6	O/TUR/264/2009* (FMDI)	TUR09-AK	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{SAN-09}
7	O/PAK/16/2010	PAK10-16	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	587	0	91.86	8.14	ME-SA	PanAsia
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	574	0	89.83	10.17	ME-SA	Ind-2001a
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/102/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PISB5	
Location: Islamabad, Federal Area, Pakistan	Topotype: ME-SA
Date collected: 12/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10102.SEQ
Date received for sequencing: 31/01/2011	Date sequence last updated: 02/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 35 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/PAK/1/2011	PAK11-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/112/2010	PAK10112	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/77/2010	PAK10-77	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/78/2010	PAK10-78	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/79/2010	PAK10-79	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/80/2010	PAK10-80	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/88/2010	PAK10-88	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/89/2010	PAK10-89	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/9/2011	PAK11-09	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/98/2010	PAK10-98	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	580	0	90.77	9.23	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/103/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PISB6	
Location: Islamabad, Federal Area, Pakistan	Topotype: ME-SA
Date collected: 12/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10103.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/104/2010	PAK10104	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/105/2010	PAK10105	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/116/2010	PAK10116	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/113/2010	PAK10113	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/114/2010	PAK10114	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/93/2010	IRN10-93	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/100/2010	PAK10100	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/53/2010	PAK10-53	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/54/2010	PAK10-54	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/104/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PISB7	
Location: Islamabad, Federal Area, Pakistan	Topotype: ME-SA
Date collected: 12/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10104.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Buffalo	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/103/2010	PAK10103	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/105/2010	PAK10105	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/116/2010	PAK10116	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/113/2010	PAK10113	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/114/2010	PAK10114	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/93/2010	IRN10-93	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/100/2010	PAK10100	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/53/2010	PAK10-53	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/54/2010	PAK10-54	639	633	0	99.06	0.94	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	601	0	94.05	5.95	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	601	0	94.05	5.95	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	584	0	91.39	8.61	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	572	0	89.51	10.49	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	571	0	89.36	10.64	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/105/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW7	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 15/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10105.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/103/2010	PAK10103	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/104/2010	PAK10104	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/116/2010	PAK10116	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/113/2010	PAK10113	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/114/2010	PAK10114	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/93/2010	IRN10-93	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/100/2010	PAK10100	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/53/2010	PAK10-53	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/54/2010	PAK10-54	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/106/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW8	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 15/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10106.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/90/2010	PAK10-90	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/112/2010	PAK10112	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/77/2010	PAK10-77	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/78/2010	PAK10-78	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/79/2010	PAK10-79	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/80/2010	PAK10-80	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/88/2010	PAK10-88	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/89/2010	PAK10-89	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/98/2010	PAK10-98	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/102/2010	PAK10102	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	579	0	90.61	9.39	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	570	1	89.34	10.66	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	569	0	89.05	10.95	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/112/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBW20	
Location: Bahawalpur, Punjab, Pakistan	Topotype: ME-SA
Date collected: 27/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10112.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Cattle	No. of Nt determined: 639
Material used: BTy2	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/77/2010	PAK10-77	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/78/2010	PAK10-78	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/79/2010	PAK10-79	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/80/2010	PAK10-80	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/88/2010	PAK10-88	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/89/2010	PAK10-89	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/98/2010	PAK10-98	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/106/2010	PAK10106	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/113/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK6	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 31/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10113.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/114/2010	PAK10114	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/116/2010	PAK10116	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/103/2010	PAK10103	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/104/2010	PAK10104	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/105/2010	PAK10105	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/93/2010	IRN10-93	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/100/2010	PAK10100	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/53/2010	PAK10-53	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/54/2010	PAK10-54	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/114/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK7	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 31/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10114.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/113/2010	PAK10113	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/116/2010	PAK10116	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/103/2010	PAK10103	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/104/2010	PAK10104	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/105/2010	PAK10105	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/93/2010	IRN10-93	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/100/2010	PAK10100	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/53/2010	PAK10-53	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/54/2010	PAK10-54	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	582	0	91.08	8.92	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	569	0	89.05	10.95	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/116/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK9	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 31/12/2010	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK10116.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/103/2010	PAK10103	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/104/2010	PAK10104	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/113/2010	PAK10113	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/114/2010	PAK10114	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/105/2010	PAK10105	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/IRN/93/2010	IRN10-93	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/100/2010	PAK10100	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/53/2010	PAK10-53	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/54/2010	PAK10-54	639	632	0	98.90	1.10	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/31/2009	IRN09-31	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{FAR-09}
3	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
4	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
5	O/IRN/18/2010	IRN10-18	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{BAL-09}
6	O/PAK/16/2010	PAK10-16	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{PUN-10}
7	O/TUR/264/2009* (FMDI)	TUR09-AK	639	594	0	92.96	7.04	ME-SA	PanAsia-2 ^{SAN-09}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	583	0	91.24	8.76	ME-SA	PanAsia
9	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b
10	O/PAK/16/2003 (DQ165068)	PAK03-16	639	570	0	89.20	10.80	ME-SA	Pak-98

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/1/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK1	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 03/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-01.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
Species: Buffalo	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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/9/2011	PAK11-09	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/3/2011	PAK11-03	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/10/2011	PAK11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/112/2010	PAK10112	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/2/2011	PAK11-02	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/4/2011	PAK11-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/5/2011	PAK11-05	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/2/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK2	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 03/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-02.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/10/2011	PAK11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/4/2011	PAK11-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/5/2011	PAK11-05	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/9/2011	PAK11-09	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/102/2010	PAK10102	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/3/2011	PAK11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/3/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK3	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 03/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-03.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/1/2011	PAK11-01	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/9/2011	PAK11-09	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/102/2010	PAK10102	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/10/2011	PAK11-10	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/112/2010	PAK10112	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/2/2011	PAK11-02	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/4/2011	PAK11-04	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/5/2011	PAK11-05	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	630	0	98.59	1.41	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	599	0	93.74	6.26	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	599	0	93.74	6.26	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	580	0	90.77	9.23	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	571	1	89.50	10.50	ME-SA	Irn-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	570	0	89.20	10.80	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/4/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK4	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 03/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-04.SEQ
Date received for sequencing: 07/02/2011	Date sequence last updated: 09/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 28 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/PAK/10/2011	PAK11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/2/2011	PAK11-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/5/2011	PAK11-05	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/9/2011	PAK11-09	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/102/2010	PAK10102	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/3/2011	PAK11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/5/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK5	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 03/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-05.SEQ
Date received for sequencing: 14/02/2011	Date sequence last updated: 17/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 21 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/PAK/10/2011	PAK11-10	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/2/2011	PAK11-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/4/2011	PAK11-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/9/2011	PAK11-09	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/102/2010	PAK10102	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/3/2011	PAK11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-3

Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/9/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK10	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 04/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-09.SEQ
Date received for sequencing: 14/02/2011	Date sequence last updated: 15/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 21 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/PAK/1/2011	PAK11-01	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/102/2010	PAK10102	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/3/2011	PAK11-03	639	638	0	99.84	0.16	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/10/2011	PAK11-10	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/112/2010	PAK10112	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/2/2011	PAK11-02	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/4/2011	PAK11-04	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/5/2011	PAK11-05	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	631	0	98.75	1.25	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	600	0	93.90	6.10	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	600	0	93.90	6.10	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	597	0	93.43	6.57	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	593	0	92.80	7.20	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	592	0	92.64	7.36	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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Page 1 of 1

Serotype: O	Report date: 07/03/2011
WRLFMD Ref No: PAK/10/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2011/00003	Checked by: D.P. King
Sender Ref: PBK11	
Location: Bhakhar, Punjab, Pakistan	Topotype: ME-SA
Date collected: 04/01/2011	Genotype/strain: PanAsia-2 ^{ANT-10}
Date received by WRLFMD: 18/01/2011	Sequence filename: PAK11-10.SEQ
Date received for sequencing: 14/02/2011	Date sequence last updated: 15/02/2011
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: 2676
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 48 days
	Sequencing time: 21 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/PAK/2/2011	PAK11-02	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
2	O/PAK/4/2011	PAK11-04	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
3	O/PAK/5/2011	PAK11-05	639	639	0	100.00	0.00	ME-SA	PanAsia-2 ^{ANT-10}
4	O/PAK/1/2011	PAK11-01	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
5	O/PAK/9/2011	PAK11-09	639	637	0	99.69	0.31	ME-SA	PanAsia-2 ^{ANT-10}
6	O/PAK/102/2010	PAK10102	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
7	O/PAK/3/2011	PAK11-03	639	636	0	99.53	0.47	ME-SA	PanAsia-2 ^{ANT-10}
8	O/PAK/112/2010	PAK10112	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
9	O/PAK/77/2010	PAK10-77	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
10	O/PAK/78/2010	PAK10-78	639	635	0	99.37	0.63	ME-SA	PanAsia-2 ^{ANT-10}
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/IRN/88/2009	IRN09-88	639	629	0	98.44	1.56	ME-SA	PanAsia-2 ^{ANT-10}
2	O/IRN/8/2005	IRN05-08	639	598	0	93.58	6.42	ME-SA	PanAsia-2
3	O/TUR/257/2008* (FMDI)	TUR08-AD	639	598	0	93.58	6.42	ME-SA	PanAsia-2 ^{TER-08}
4	O/IRN/31/2009	IRN09-31	639	596	0	93.27	6.73	ME-SA	PanAsia-2 ^{FAR-09}
5	O/TUR/264/2009* (FMDI)	TUR09-AK	639	595	0	93.11	6.89	ME-SA	PanAsia-2 ^{SAN-09}
6	O/IRN/18/2010	IRN10-18	639	591	0	92.49	7.51	ME-SA	PanAsia-2 ^{BAL-09}
7	O/PAK/16/2010	PAK10-16	639	590	0	92.33	7.67	ME-SA	PanAsia-2 ^{PUN-10}
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	581	0	90.92	9.08	ME-SA	PanAsia
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	572	1	89.66	10.34	ME-SA	Im-2001
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	571	0	89.36	10.64	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.0

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Report on FMDV O in Pakistan in 2010-2011

Batch: WRLFMD/2011/00003

Software: MEGA 5.0

Analysis

Analysis ----- Phylogeny Reconstruction

Scope ----- All Selected Taxa

Statistical Method ----- Neighbor-joining

Phylogeny Test

Test of Phylogeny ----- Bootstrap method

No. of Bootstrap Replications ----- 1000

Substitution Model

Substitutions Type ----- Nucleotide

Model/Method ----- Kimura 2-parameter model

Substitutions to Include ----- d: Transitions + Transversions

Rates and Patterns

Rates among Sites ----- Uniform rates

Pattern among Lineages ----- Same (Homogeneous)

Data Subset to Use

Gaps/Missing Data Treatment ----- Pairwise deletion

Codons Included ----- 1st+2nd+3rd+Non-Coding

No. of Sites : 639

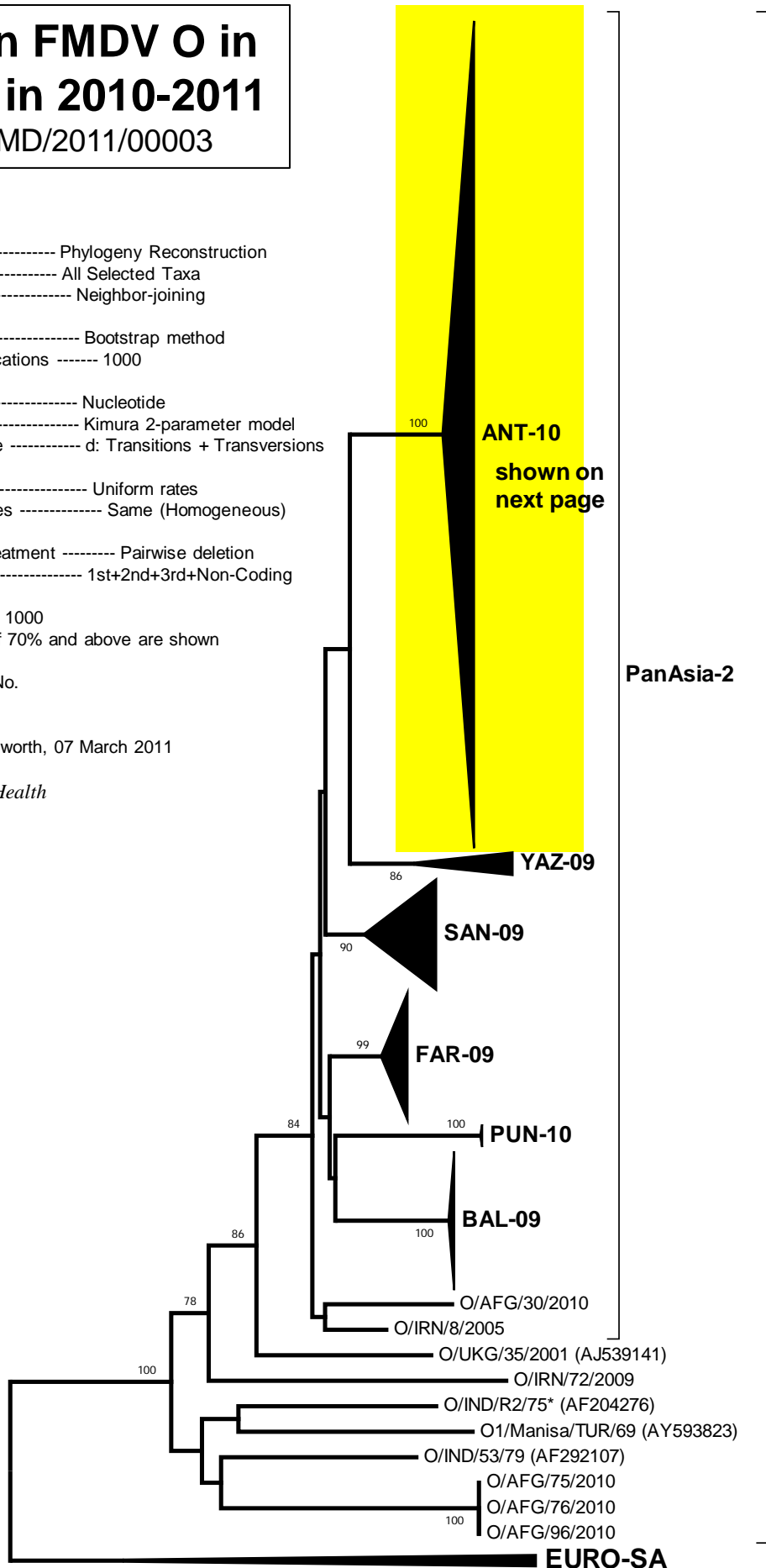
No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

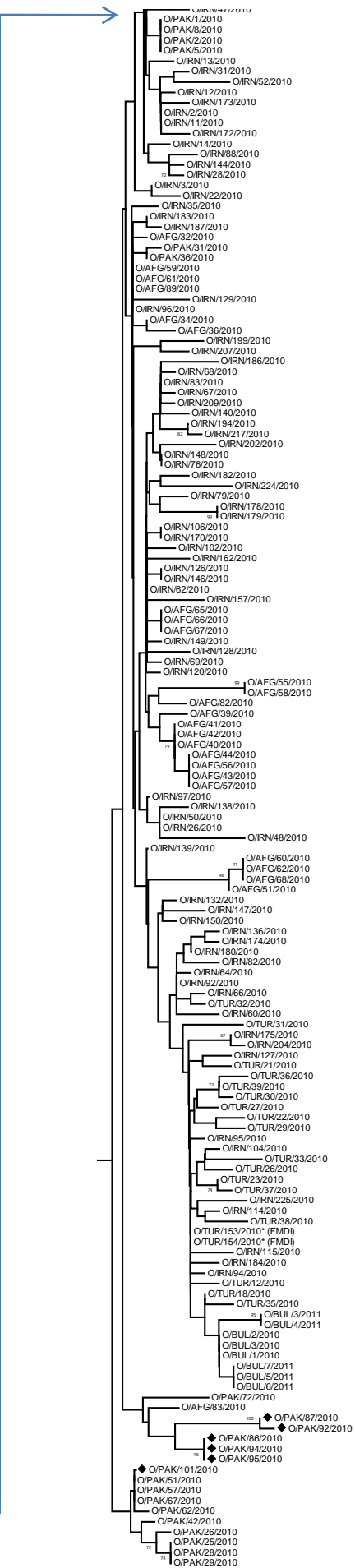
*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 07 March 2011

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0.02



◆ indicates viruses in this batch