

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

Genotyping Report

Report Date for this Batch: 12 September 2013

FMDV type O

Country: Vietnam

Period: 2012-2013

No. of samples: 9

BATCH: WRLFMD/2013/00017



The contents of this report are copyright and should not be reproduced without permission

© The Pirbright Institute

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/27/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: TS-NTH-2	
Location: Nghe An province, Vietnam	Topotype: ME-SA
Date collected: 10/11/2012	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT12-27.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 22/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/16/2011	VIT11-16	639	625	0	97.81	2.19	ME-SA	PanAsia
2	O/VIT/17/2011	VIT11-17	639	625	0	97.81	2.19	ME-SA	PanAsia
3	O/VIT/5/2011	VIT11-05	639	625	0	97.81	2.19	ME-SA	PanAsia
4	O/VIT/6/2011	VIT11-06	639	625	0	97.81	2.19	ME-SA	PanAsia
5	O/VIT/12/2011	VIT11-12	639	624	0	97.65	2.35	ME-SA	PanAsia
6	O/VIT/26/2011	VIT11-26	639	624	0	97.65	2.35	ME-SA	PanAsia
7	O/VIT/29/2011	VIT11-29	639	624	0	97.65	2.35	ME-SA	PanAsia
8	O/VIT/31/2011	VIT11-31	639	624	0	97.65	2.35	ME-SA	PanAsia
9	O/VIT/34/2011	VIT11-34	639	624	0	97.65	2.35	ME-SA	PanAsia
10	O/VIT/35/2011	VIT11-35	639	624	0	97.65	2.35	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	594	0	92.96	7.04	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	585	0	91.55	8.45	ME-SA	Ind-2001a
3	O/OMN/7/2001 (DQ164941)	OMN01-07	639	581	0	90.92	9.08	ME-SA	Ind-2001b
4	O/IRN/31/2009	IRN09-31	639	579	0	90.61	9.39	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/8/2005	IRN05-08	639	579	0	90.61	9.39	ME-SA	PanAsia-2
6	O/IRN/61/2001 (DQ164896)	IRN01-61	638	575	1	90.13	9.87	ME-SA	Irn-2001
7	O/UAE/4/2008	UAE08-04	636	573	0	90.09	9.91	ME-SA	Ind-2001c
8	O/BHU/3/2009	BHU09-03	639	575	0	89.98	10.02	ME-SA	Ind-2001d
9	O/IRN/18/2010	IRN10-18	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{BAL-09}
10	O/PAK/16/2010	PAK10-16	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{PUN-10}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/11/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-6256	
Location: Quang Nam province, Vietnam	Topotype: ME-SA
Date collected: 21/05/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-11.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 21/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/12/2013	VIT13-12	639	639	0	100.00	0.00	ME-SA	PanAsia
2	O/VIT/13/2013	VIT13-13	639	637	0	99.69	0.31	ME-SA	PanAsia
3	O/VIT/15/2013	VIT13-15	639	637	0	99.69	0.31	ME-SA	PanAsia
4	O/VIT/14/2013	VIT13-14	639	630	0	98.59	1.41	ME-SA	PanAsia
5	O/VIT/16/2013	VIT13-16	639	630	0	98.59	1.41	ME-SA	PanAsia
6	O/VIT/4/2010	VIT10-04	639	624	0	97.65	2.35	ME-SA	PanAsia
7	O/VIT/7/2010	VIT10-07	639	624	0	97.65	2.35	ME-SA	PanAsia
8	O/VIT/8/2010	VIT10-08	639	624	0	97.65	2.35	ME-SA	PanAsia
9	O/CAM/2/2010	CAM10-02	639	623	0	97.50	2.50	ME-SA	PanAsia
10	O/CAM/4/2010	CAM10-04	639	623	0	97.50	2.50	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	597	0	93.43	6.57	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	587	0	91.86	8.14	ME-SA	Ind-2001a
3	O/IRN/8/2005	IRN05-08	639	584	0	91.39	8.61	ME-SA	PanAsia-2
4	O/BHU/3/2009	BHU09-03	639	581	0	90.92	9.08	ME-SA	Ind-2001d
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	581	0	90.92	9.08	ME-SA	Ind-2001b
6	O/UAE/4/2008	UAE08-04	636	576	0	90.57	9.43	ME-SA	Ind-2001c
7	O/IRN/31/2009	IRN09-31	639	578	0	90.45	9.55	ME-SA	PanAsia-2 ^{FAR-09}
8	O/IRN/61/2001 (DQ164896)	IRN01-61	638	575	1	90.13	9.87	ME-SA	Irn-2001
9	O/PAK/16/2010	PAK10-16	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IRN/18/2010	IRN10-18	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/12/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-6256A	
Location: Quang Nam province, Vietnam	Topotype: ME-SA
Date collected: 21/05/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-12.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 20/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/11/2013	VIT13-11	639	639	0	100.00	0.00	ME-SA	PanAsia
2	O/VIT/13/2013	VIT13-13	639	637	0	99.69	0.31	ME-SA	PanAsia
3	O/VIT/15/2013	VIT13-15	639	637	0	99.69	0.31	ME-SA	PanAsia
4	O/VIT/14/2013	VIT13-14	639	630	0	98.59	1.41	ME-SA	PanAsia
5	O/VIT/16/2013	VIT13-16	639	630	0	98.59	1.41	ME-SA	PanAsia
6	O/VIT/4/2010	VIT10-04	639	624	0	97.65	2.35	ME-SA	PanAsia
7	O/VIT/7/2010	VIT10-07	639	624	0	97.65	2.35	ME-SA	PanAsia
8	O/VIT/8/2010	VIT10-08	639	624	0	97.65	2.35	ME-SA	PanAsia
9	O/CAM/2/2010	CAM10-02	639	623	0	97.50	2.50	ME-SA	PanAsia
10	O/CAM/4/2010	CAM10-04	639	623	0	97.50	2.50	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	597	0	93.43	6.57	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	587	0	91.86	8.14	ME-SA	Ind-2001a
3	O/IRN/8/2005	IRN05-08	639	584	0	91.39	8.61	ME-SA	PanAsia-2
4	O/BHU/3/2009	BHU09-03	639	581	0	90.92	9.08	ME-SA	Ind-2001d
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	581	0	90.92	9.08	ME-SA	Ind-2001b
6	O/UAE/4/2008	UAE08-04	636	576	0	90.57	9.43	ME-SA	Ind-2001c
7	O/IRN/31/2009	IRN09-31	639	578	0	90.45	9.55	ME-SA	PanAsia-2 ^{FAR-09}
8	O/IRN/61/2001 (DQ164896)	IRN01-61	638	575	1	90.13	9.87	ME-SA	Irn-2001
9	O/PAK/16/2010	PAK10-16	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IRN/18/2010	IRN10-18	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/13/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-6257	
Location: Quang Nam province, Vietnam	Topotype: ME-SA
Date collected: 21/05/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-13.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 22/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/15/2013	VIT13-15	639	639	0	100.00	0.00	ME-SA	PanAsia
2	O/VIT/11/2013	VIT13-11	639	637	0	99.69	0.31	ME-SA	PanAsia
3	O/VIT/12/2013	VIT13-12	639	637	0	99.69	0.31	ME-SA	PanAsia
4	O/VIT/14/2013	VIT13-14	639	632	0	98.90	1.10	ME-SA	PanAsia
5	O/VIT/16/2013	VIT13-16	639	632	0	98.90	1.10	ME-SA	PanAsia
6	O/VIT/4/2010	VIT10-04	639	624	0	97.65	2.35	ME-SA	PanAsia
7	O/VIT/7/2010	VIT10-07	639	624	0	97.65	2.35	ME-SA	PanAsia
8	O/VIT/8/2010	VIT10-08	639	624	0	97.65	2.35	ME-SA	PanAsia
9	O/CAM/2/2010	CAM10-02	639	623	0	97.50	2.50	ME-SA	PanAsia
10	O/CAM/4/2010	CAM10-04	639	623	0	97.50	2.50	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	596	0	93.27	6.73	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	588	0	92.02	7.98	ME-SA	Ind-2001a
3	O/IRN/8/2005	IRN05-08	639	583	0	91.24	8.76	ME-SA	PanAsia-2
4	O/BHU/3/2009	BHU09-03	639	582	0	91.08	8.92	ME-SA	Ind-2001d
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	582	0	91.08	8.92	ME-SA	Ind-2001b
6	O/UAE/4/2008	UAE08-04	636	578	0	90.88	9.12	ME-SA	Ind-2001c
7	O/IRN/61/2001 (DQ164896)	IRN01-61	638	577	1	90.44	9.56	ME-SA	Irn-2001
8	O/IRN/31/2009	IRN09-31	639	577	0	90.30	9.70	ME-SA	PanAsia-2 ^{FAR-09}
9	O/PAK/16/2010	PAK10-16	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IRN/18/2010	IRN10-18	639	573	0	89.67	10.33	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/14/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-6257A	
Location: Quang Nam province, Vietnam	Topotype: ME-SA
Date collected: 21/05/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-14.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 22/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/16/2013	VIT13-16	639	639	0	100.00	0.00	ME-SA	PanAsia
2	O/VIT/13/2013	VIT13-13	639	632	0	98.90	1.10	ME-SA	PanAsia
3	O/VIT/15/2013	VIT13-15	639	632	0	98.90	1.10	ME-SA	PanAsia
4	O/VIT/11/2013	VIT13-11	639	630	0	98.59	1.41	ME-SA	PanAsia
5	O/VIT/12/2013	VIT13-12	639	630	0	98.59	1.41	ME-SA	PanAsia
6	O/VIT/4/2010	VIT10-04	639	623	0	97.50	2.50	ME-SA	PanAsia
7	O/VIT/7/2010	VIT10-07	639	623	0	97.50	2.50	ME-SA	PanAsia
8	O/VIT/8/2010	VIT10-08	639	623	0	97.50	2.50	ME-SA	PanAsia
9	O/CAM/2/2010	CAM10-02	639	622	0	97.34	2.66	ME-SA	PanAsia
10	O/CAM/4/2010	CAM10-04	639	622	0	97.34	2.66	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	597	0	93.43	6.57	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	587	0	91.86	8.14	ME-SA	Ind-2001a
3	O/IRN/8/2005	IRN05-08	639	586	0	91.71	8.29	ME-SA	PanAsia-2
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	583	0	91.24	8.76	ME-SA	Ind-2001b
5	O/UAE/4/2008	UAE08-04	636	577	0	90.72	9.28	ME-SA	Ind-2001c
6	O/BHU/3/2009	BHU09-03	639	579	0	90.61	9.39	ME-SA	Ind-2001d
7	O/IRN/61/2001 (DQ164896)	IRN01-61	638	578	1	90.60	9.40	ME-SA	Irn-2001
8	O/IRN/31/2009	IRN09-31	639	576	0	90.14	9.86	ME-SA	PanAsia-2 ^{FAR-09}
9	O/PAK/16/2010	PAK10-16	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IND/53/79 (AF292107)	IND79A53	639	574	0	89.83	10.17	ME-SA	unnamed

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/15/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-6803	
Location: Ninh Thuan province, Vietnam	Topotype: ME-SA
Date collected: 31/05/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-15.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 20/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/13/2013	VIT13-13	639	639	0	100.00	0.00	ME-SA	PanAsia
2	O/VIT/11/2013	VIT13-11	639	637	0	99.69	0.31	ME-SA	PanAsia
3	O/VIT/12/2013	VIT13-12	639	637	0	99.69	0.31	ME-SA	PanAsia
4	O/VIT/14/2013	VIT13-14	639	632	0	98.90	1.10	ME-SA	PanAsia
5	O/VIT/16/2013	VIT13-16	639	632	0	98.90	1.10	ME-SA	PanAsia
6	O/VIT/4/2010	VIT10-04	639	624	0	97.65	2.35	ME-SA	PanAsia
7	O/VIT/7/2010	VIT10-07	639	624	0	97.65	2.35	ME-SA	PanAsia
8	O/VIT/8/2010	VIT10-08	639	624	0	97.65	2.35	ME-SA	PanAsia
9	O/CAM/2/2010	CAM10-02	639	623	0	97.50	2.50	ME-SA	PanAsia
10	O/CAM/4/2010	CAM10-04	639	623	0	97.50	2.50	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	596	0	93.27	6.73	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	588	0	92.02	7.98	ME-SA	Ind-2001a
3	O/IRN/8/2005	IRN05-08	639	583	0	91.24	8.76	ME-SA	PanAsia-2
4	O/BHU/3/2009	BHU09-03	639	582	0	91.08	8.92	ME-SA	Ind-2001d
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	582	0	91.08	8.92	ME-SA	Ind-2001b
6	O/UAE/4/2008	UAE08-04	636	578	0	90.88	9.12	ME-SA	Ind-2001c
7	O/IRN/61/2001 (DQ164896)	IRN01-61	638	577	1	90.44	9.56	ME-SA	Irn-2001
8	O/IRN/31/2009	IRN09-31	639	577	0	90.30	9.70	ME-SA	PanAsia-2 ^{FAR-09}
9	O/PAK/16/2010	PAK10-16	639	574	0	89.83	10.17	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IRN/18/2010	IRN10-18	639	573	0	89.67	10.33	ME-SA	PanAsia-2 ^{BAL-09}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/16/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-6803A	
Location: Ninh Thuan province, Vietnam	Topotype: ME-SA
Date collected: 31/05/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-16.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 20/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/14/2013	VIT13-14	639	639	0	100.00	0.00	ME-SA	PanAsia
2	O/VIT/13/2013	VIT13-13	639	632	0	98.90	1.10	ME-SA	PanAsia
3	O/VIT/15/2013	VIT13-15	639	632	0	98.90	1.10	ME-SA	PanAsia
4	O/VIT/11/2013	VIT13-11	639	630	0	98.59	1.41	ME-SA	PanAsia
5	O/VIT/12/2013	VIT13-12	639	630	0	98.59	1.41	ME-SA	PanAsia
6	O/VIT/4/2010	VIT10-04	639	623	0	97.50	2.50	ME-SA	PanAsia
7	O/VIT/7/2010	VIT10-07	639	623	0	97.50	2.50	ME-SA	PanAsia
8	O/VIT/8/2010	VIT10-08	639	623	0	97.50	2.50	ME-SA	PanAsia
9	O/CAM/2/2010	CAM10-02	639	622	0	97.34	2.66	ME-SA	PanAsia
10	O/CAM/4/2010	CAM10-04	639	622	0	97.34	2.66	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	597	0	93.43	6.57	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	587	0	91.86	8.14	ME-SA	Ind-2001a
3	O/IRN/8/2005	IRN05-08	639	586	0	91.71	8.29	ME-SA	PanAsia-2
4	O/OMN/7/2001 (DQ164941)	OMN01-07	639	583	0	91.24	8.76	ME-SA	Ind-2001b
5	O/UAE/4/2008	UAE08-04	636	577	0	90.72	9.28	ME-SA	Ind-2001c
6	O/BHU/3/2009	BHU09-03	639	579	0	90.61	9.39	ME-SA	Ind-2001d
7	O/IRN/61/2001 (DQ164896)	IRN01-61	638	578	1	90.60	9.40	ME-SA	Irn-2001
8	O/IRN/31/2009	IRN09-31	639	576	0	90.14	9.86	ME-SA	PanAsia-2 ^{FAR-09}
9	O/PAK/16/2010	PAK10-16	639	575	0	89.98	10.02	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IND/53/79 (AF292107)	IND79A53	639	574	0	89.83	10.17	ME-SA	unnamed

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/18/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-7779A	
Location: Phu Yen province, Vietnam	Topotype: ME-SA
Date collected: 20/06/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-18.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy1 21/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/VIT/10/2010	VIT10-10	639	623	0	97.50	2.50	ME-SA	PanAsia
2	O/VIT/11/2010	VIT10-11	639	623	0	97.50	2.50	ME-SA	PanAsia
3	O/VIT/14/2010	VIT10-14	639	623	0	97.50	2.50	ME-SA	PanAsia
4	O/VIT/3/2010	VIT10-03	639	623	0	97.50	2.50	ME-SA	PanAsia
5	O/CAM/1/2010	CAM10-01	639	622	0	97.34	2.66	ME-SA	PanAsia
6	O/CAM/3/2010	CAM10-03	639	622	0	97.34	2.66	ME-SA	PanAsia
7	O/CAM/6/2010	CAM10-06	639	622	0	97.34	2.66	ME-SA	PanAsia
8	O/VIT/1/2011	VIT11-01	639	622	0	97.34	2.66	ME-SA	PanAsia
9	O/VIT/19/2010	VIT10-19	639	622	0	97.34	2.66	ME-SA	PanAsia
10	O/VIT/20/2010	VIT10-20	639	622	0	97.34	2.66	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	590	0	92.33	7.67	ME-SA	PanAsia
2	O/IRN/18/2010	IRN10-18	639	581	0	90.92	9.08	ME-SA	PanAsia-2 ^{BAL-09}
3	O/KUW/3/97 (DQ164904)	KUW97-03	639	581	0	90.92	9.08	ME-SA	Ind-2001a
4	O/IRN/31/2009	IRN09-31	639	578	0	90.45	9.55	ME-SA	PanAsia-2 ^{FAR-09}
5	O/IRN/8/2005	IRN05-08	639	578	0	90.45	9.55	ME-SA	PanAsia-2
6	O/OMN/7/2001 (DQ164941)	OMN01-07	639	578	0	90.45	9.55	ME-SA	Ind-2001b
7	O/PAK/16/2003 (DQ165068)	PAK03-16	639	577	0	90.30	9.70	ME-SA	Pak-98
8	O/BHU/3/2009	BHU09-03	639	576	0	90.14	9.86	ME-SA	Ind-2001d
9	O/PAK/16/2010	PAK10-16	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{PUN-10}
10	O/IRN/88/2009	IRN09-88	639	569	0	89.05	10.95	ME-SA	PanAsia-2 ^{ANT-10}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 11/09/2013
WRLFMD Ref No: VIT/20/2013	Reported by: N.J. Knowles
Batch No: WRLFMD/2013/00017	Checked by: D.P. King
Sender Ref: 13-10028/BL1	
Location: Phu Yen province, Vietnam	Topotype: ME-SA
Date collected: 06/08/2013	Genotype/strain: PanAsia
Date received by WRLFMD: 16/08/2013	Sequence filename: VIT13-20.SEQ
Date received for sequencing: 04/09/2013	Date sequence last updated: 11/09/2013
Species: Cattle	No. of Nt determined: 639
Material used: BTy2 22/08/2013	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3696
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 26 days
	Sequencing time: 7 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/LAO/1/2011	LAO11-01	639	622	0	97.34	2.66	ME-SA	PanAsia
2	O/LAO/2/2011	LAO11-02	639	622	0	97.34	2.66	ME-SA	PanAsia
3	O/VIT/19/2010	VIT10-19	639	622	0	97.34	2.66	ME-SA	PanAsia
4	O/VIT/22/2010	VIT10-22	639	622	0	97.34	2.66	ME-SA	PanAsia
5	O/VIT/7/2010	VIT10-07	639	622	0	97.34	2.66	ME-SA	PanAsia
6	O/VIT/8/2010	VIT10-08	639	622	0	97.34	2.66	ME-SA	PanAsia
7	O/VIT/9/2010	VIT10-09	639	622	0	97.34	2.66	ME-SA	PanAsia
8	O/CAM/2/2010	CAM10-02	639	621	0	97.18	2.82	ME-SA	PanAsia
9	O/CAM/4/2010	CAM10-04	639	621	0	97.18	2.82	ME-SA	PanAsia
10	O/CAM/5/2010	CAM10-05	639	621	0	97.18	2.82	ME-SA	PanAsia
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/UKG/35/2001 (AJ539141)	UKG01-35	639	592	0	92.64	7.36	ME-SA	PanAsia
2	O/KUW/3/97 (DQ164904)	KUW97-03	639	582	0	91.08	8.92	ME-SA	Ind-2001a
3	O/BHU/3/2009	BHU09-03	639	579	0	90.61	9.39	ME-SA	Ind-2001d
4	O/IRN/8/2005	IRN05-08	639	579	0	90.61	9.39	ME-SA	PanAsia-2
5	O/OMN/7/2001 (DQ164941)	OMN01-07	639	579	0	90.61	9.39	ME-SA	Ind-2001b
6	O/IRN/31/2009	IRN09-31	639	578	0	90.45	9.55	ME-SA	PanAsia-2 ^{FAR-09}
7	O/IRN/18/2010	IRN10-18	639	577	0	90.30	9.70	ME-SA	PanAsia-2 ^{BAL-09}
8	O/UAE/4/2008	UAE08-04	636	570	0	89.62	10.38	ME-SA	Ind-2001c
9	O/PAK/16/2003 (DQ165068)	PAK03-16	639	572	0	89.51	10.49	ME-SA	Pak-98
10	O/IRN/88/2009	IRN09-88	639	571	0	89.36	10.64	ME-SA	PanAsia-2 ^{ANT-10}

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.1

© The Pirbright Institute (not to be reproduced without permission)

Report on FMDV O in Vietnam in 2012-2013

Batch: WRLFMD/2013/00017

◆ indicates viruses in this batch

Software: MEGA 5.2

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 : 645

No Of Bootstrap Reps = 1000

Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles, K. Bachanek-Bankowska & J. Wadsworth,
12 September 2013

© The Pirbright Institute

(not to be reproduced without permission)

