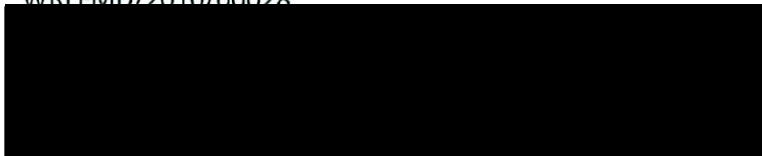




INSTITUTE FOR ANIMAL HEALTH
Director: Professor Martin W. Shirley, PhD
PIRBRIGHT LABORATORY
Ash Road,
Pirbright,
Surrey,
GU24 0NF
Intn Tel: 00 44 1483 232441
Tel: 01483 232441 Fax: 01483 232621

FMD Sequencing Report

Lab Reference WRL Batch Number: WRLFMD/2010/00028
Sender Details:

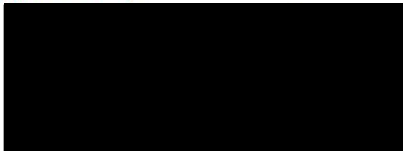


Date Received: 25th June 2010
Country of Origin: Myanmar
Date Reported: 9th August 2010

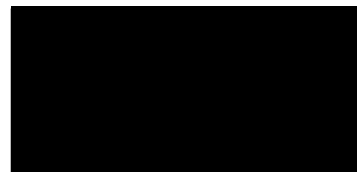
Dear Dr. Khin Maung Latt,

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:

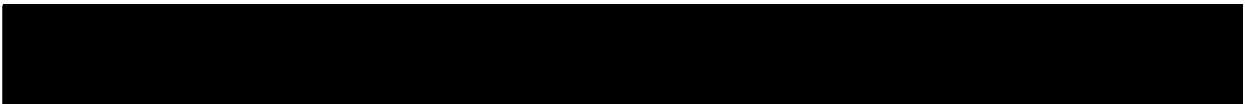


Official Stamp:



Date:

9/2/10



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: 5 August 2010

FMDV type O

Country: Myanmar

Period: 2009-2010

No. of isolates: 5

BATCH: WRLFMD/2010/00028



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FAO World Reference Laboratory for FMD Genotyping Report

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Serotype: O	Report date: 05/08/2010
WRLFMD Ref No: MYA/12/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00028	Checked by: V. Mioulet
Sender Ref: 2238	
Location: Thaminchang, Southern Yangon (Kahmu Township), Myanmar	Topotype: SEA
Date collected: 24/11/2009	Genotype/strain: Mya-98
Date received by WRLFMD: 25/06/2010	Sequence filename: MYA09-12.SEQ
Date received for sequencing: 28/07/2010	Date sequence last updated: 05/08/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2237
	Min. no. of nt for comparison: 600
	Total turn-around time: 41 days
	Sequencing time: 8 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/MYA/1/2009	MYA09-01	639	639	0	100.00	0.00	SEA	Mya-98
2	O/MYA/9/2009	MYA09-09	639	639	0	100.00	0.00	SEA	Mya-98
3	O/LAO/071	LAO--071	639	628	0	98.28	1.72	?	unnamed
4	O/LAO/073	LAO--073	639	628	0	98.28	1.72	?	unnamed
5	O/LAO/2/2008	LAO08-02	639	628	0	98.28	1.72	SEA	unnamed
6	O/LAO/3/2008	LAO08-03	639	628	0	98.28	1.72	SEA	unnamed
7	O/TAI/9/2007	TAI07-09	639	628	0	98.28	1.72	SEA	unnamed
8	O/LAO/061	LAO--061	639	627	0	98.12	1.88	?	unnamed
9	O/LAO/064	LAO--064	639	627	0	98.12	1.88	?	unnamed
10	O/LAO/067	LAO--067	639	627	0	98.12	1.88	?	unnamed
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/MYA/7/98 (DQ164925)	MYA98-07	639	593	0	92.80	7.20	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	573	0	89.67	10.33	SEA	unnamed
3	O/CAM/3/98 (AJ294910)	CAM98-03	639	544	0	85.13	14.87	SEA	Cam-94
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	544	0	85.13	14.87	ME-SA	Pak-98
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	544	0	85.13	14.87	ME-SA	unnamed
6	O/IND/R2/75* (AF204276)	IND75--A	639	543	0	84.98	15.02	ME-SA	unnamed
7	O/IND/53/79 (AF292107)	IND79A53	639	541	0	84.66	15.34	ME-SA	unnamed
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	539	0	84.35	15.65	ME-SA	PanAsia
9	O/K83/79* (AJ303511)	KEN79B83	638	537	1	84.17	15.83	EA-1	unnamed
10	O/OMN/7/2001 (DQ164941)	OMN01-07	639	537	0	84.04	15.96	ME-SA	Ind-2001b

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 05/08/2010
WRLFMD Ref No: MYA/13/2009	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00028	Checked by: V. Mioulet
Sender Ref: 2243	
Location: Ywathit, Minbu (Salin Township), Magway, Myanmar	Topotype: SEA
Date collected: 30/11/2009	Genotype/strain: Mya-98
Date received by WRLFMD: 25/06/2010	Sequence filename: MYA09-13.SEQ
Date received for sequencing: 28/07/2010	Date sequence last updated: 05/08/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2237
	Min. no. of nt for comparison: 600
	Total turn-around time: 41 days
	Sequencing time: 8 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/MYA/11/2009	MYA09-11	639	637	0	99.69	0.31	SEA	Mya-98
2	O/MYA/10/2009	MYA09-10	639	633	0	99.06	0.94	SEA	Mya-98
3	O/LAO/101	LAO--101	639	609	0	95.31	4.69	?	unnamed
4	O/MYA/5/2009	MYA09-05	639	608	0	95.15	4.85	SEA	Mya-98
5	O/MYA/6/2009	MYA09-06	639	608	0	95.15	4.85	SEA	Mya-98
6	O/Ganghwa/SKR/2010 (NVRQS)	SKR10-AB	639	607	0	94.99	5.01	SEA	Mya-98
7	O/HKN/13/2010	HKN10-13	639	607	0	94.99	5.01	SEA	Mya-98
8	O/HKN/14/2010	HKN10-14	639	607	0	94.99	5.01	SEA	Mya-98
9	O/HKN/15/2010	HKN10-15	639	607	0	94.99	5.01	SEA	Mya-98
10	O/HKN/7/2010	HKN10-07	639	607	0	94.99	5.01	SEA	Mya-98
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/MYA/7/98 (DQ164925)	MYA98-07	639	595	0	93.11	6.89	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	582	0	91.08	8.92	SEA	unnamed
3	O/CAM/3/98 (AJ294910)	CAM98-03	639	546	0	85.45	14.55	SEA	Cam-94
4	O/IRN/8/2005	IRN05-08	639	546	0	85.45	14.55	ME-SA	PanAsia-2
5	O/IND/R2/75* (AF204276)	IND75--A	639	542	0	84.82	15.18	ME-SA	unnamed
6	O/UKG/35/2001 (AJ539141)	UKG01-35	639	542	0	84.82	15.18	ME-SA	PanAsia
7	O/ETH/1/2007 (FJ798137)	ETH07-01	639	540	0	84.51	15.49	EA-3	unnamed
8	O/IND/53/79 (AF292107)	IND79A53	639	540	0	84.51	15.49	ME-SA	unnamed
9	O/IRN/61/2001 (DQ164896)	IRN01-61	638	538	1	84.33	15.67	ME-SA	Irn-2001
10	O/ETH/3/2004 (FJ798109)	ETH04-03	639	538	0	84.19	15.81	EA-3	unnamed

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O	Report date: 05/08/2010
WRLFMD Ref No: MYA/1/2010	Reported by: N.J. Knowles
Batch No: WRLFMD/2010/00028	Checked by: V. Mioulet
Sender Ref: 2274	
Location: Mintan, Sagaing (Myaung Township), Sagaing, Myanmar	Topotype: SEA
Date collected: 29/01/2010	Genotype/strain: Unnamed
Date received by WRLFMD: 25/06/2010	Sequence filename: MYA10-01.SEQ
Date received for sequencing: 28/07/2010	Date sequence last updated: 05/08/2010
Species: Cattle	No. of Nt determined: 639
Material used: BTy1	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Total no. of comparisons: 2237
	Min. no. of nt for comparison: 600
	Total turn-around time: 41 days
	Sequencing time: 8 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/189/TAI/87 VS	TAI87-AD	630	583	6	92.54	7.46	SEA	unnamed
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	591	0	92.49	7.51	SEA	unnamed
3	O/MYA/1/04* (TRRL)	MYA04-AA	639	575	0	89.98	10.02	SEA	Mya-98
4	O/MYA/2/04* (TRRL)	MYA04-AB	639	575	0	89.98	10.02	SEA	Mya-98
5	O/TAI/22/2009	TAI09-22	639	574	0	89.83	10.17	SEA	unnamed
6	O/LAO/101	LAO--101	639	573	0	89.67	10.33	?	unnamed
7	O/TAI/3/2003 (DQ164981)	TAI03-03	639	573	0	89.67	10.33	SEA	Mya-98
8	O/MYA/1/98 (AJ303521)	MYA98-01	630	564	9	89.52	10.48	SEA	Mya-98
9	O/LAO/7/2003 (EU667448)	LAO03-07	639	572	0	89.51	10.49	SEA	Mya-98
10	O/MYA/1/2006	MYA06-01	639	572	0	89.51	10.49	SEA	Mya-98
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/TAI/189/87* (TRRL)	TAI87-AC	639	591	0	92.49	7.51	SEA	unnamed
2	O/MYA/7/98 (DQ164925)	MYA98-07	639	570	0	89.20	10.80	SEA	Mya-98
3	O/IND/R2/75* (AF204276)	IND75--A	639	560	0	87.64	12.36	ME-SA	unnamed
4	O/CAM/3/98 (AJ294910)	CAM98-03	639	553	0	86.54	13.46	SEA	Cam-94
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	552	0	86.38	13.62	ME-SA	unnamed
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	551	0	86.23	13.77	ME-SA	Pak-98
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	551	0	86.23	13.77	ME-SA	PanAsia
8	O/UAE/4/2008	UAE08-04	636	545	0	85.69	14.31	ME-SA	Ind-2001c
9	O/BHU/3/2009	BHU09-03	639	547	0	85.60	14.40	ME-SA	Ind-2001d
10	O/IRN/8/2005	IRN05-08	639	545	0	85.29	14.71	ME-SA	PanAsia-2

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MYA/2/2010 Batch No: WRLFMD/2010/00028 Sender Ref: 2276 Location: Wonpyaik, Sagaing (Myinmu Township), Sagaing, Myanmar Date collected: 18/02/2010 Date received by WRLFMD: 25/06/2010 Date received for sequencing: 28/07/2010 Species: Cattle Material used: BTy2 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 05/08/2010 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Unnamed Sequence filename: MYA10-02.SEQ Date sequence last updated: 05/08/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2237 Min. no. of nt for comparison: 600 Total turn-around time: 41 days Sequencing time: 8 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/189/TAI/87 VS	TAI87-AD	630	583	6	92.54	7.46	SEA	unnamed
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	591	0	92.49	7.51	SEA	unnamed
3	O/MYA/1/04* (TRRL)	MYA04-AA	639	575	0	89.98	10.02	SEA	Mya-98
4	O/MYA/2/04* (TRRL)	MYA04-AB	639	575	0	89.98	10.02	SEA	Mya-98
5	O/TAI/22/2009	TAI09-22	639	574	0	89.83	10.17	SEA	unnamed
6	O/LAO/101	LAO--101	639	573	0	89.67	10.33	?	unnamed
7	O/TAI/3/2003 (DQ164981)	TAI03-03	639	573	0	89.67	10.33	SEA	Mya-98
8	O/MYA/1/98 (AJ303521)	MYA98-01	630	564	9	89.52	10.48	SEA	Mya-98
9	O/LAO/7/2003 (EU667448)	LAO03-07	639	572	0	89.51	10.49	SEA	Mya-98
10	O/MYA/1/2006	MYA06-01	639	572	0	89.51	10.49	SEA	Mya-98
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/TAI/189/87* (TRRL)	TAI87-AC	639	591	0	92.49	7.51	SEA	unnamed
2	O/MYA/7/98 (DQ164925)	MYA98-07	639	570	0	89.20	10.80	SEA	Mya-98
3	O/IND/R2/75* (AF204276)	IND75--A	639	560	0	87.64	12.36	ME-SA	unnamed
4	O/CAM/3/98 (AJ294910)	CAM98-03	639	553	0	86.54	13.46	SEA	Cam-94
5	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	552	0	86.38	13.62	ME-SA	unnamed
6	O/PAK/16/2003 (DQ165068)	PAK03-16	639	551	0	86.23	13.77	ME-SA	Pak-98
7	O/UKG/35/2001 (AJ539141)	UKG01-35	639	551	0	86.23	13.77	ME-SA	PanAsia
8	O/UAE/4/2008	UAE08-04	636	545	0	85.69	14.31	ME-SA	Ind-2001c
9	O/BHU/3/2009	BHU09-03	639	547	0	85.60	14.40	ME-SA	Ind-2001d
10	O/IRN/8/2005	IRN05-08	639	545	0	85.29	14.71	ME-SA	PanAsia-2

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: O WRLFMD Ref No: MYA/3/2010 Batch No: WRLFMD/2010/00028 Sender Ref: 2292 Location: Thewar, Northern Yangon (Teikkyi Township), Yangon, Myanmar Date collected: 03/03/2010 Date received by WRLFMD: 25/06/2010 Date received for sequencing: 28/07/2010 Species: Cattle Material used: BTy1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R	Report date: 05/08/2010 Reported by: N.J. Knowles Checked by: V. Mioulet Topotype: SEA Genotype/strain: Mya-98 Sequence filename: MYA10-03.SEQ Date sequence last updated: 05/08/2010 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 2237 Min. no. of nt for comparison: 600 Total turn-around time: 41 days Sequencing time: 8 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/MYA/1/04* (TRRL)	MYA04-AA	639	632	0	98.90	1.10	SEA	Mya-98
2	O/MYA/2/04* (TRRL)	MYA04-AB	639	632	0	98.90	1.10	SEA	Mya-98
3	O/TAI/36/04* (TRRL)	TAI04-AB	639	624	0	97.65	2.35	SEA	Mya-98
4	O/VIT/6/05* (TRRL)	VIT05-AF	639	620	0	97.03	2.97	SEA	Mya-98
5	O/HLJOC12/03 (China) (DQ119643)	CHA03-AA	633	614	0	97.00	3.00	SEA	unnamed
6	O/VIT/9/05* (TRRL)	VIT05-AI	639	619	0	96.87	3.13	SEA	Mya-98
7	O/VIT/4/05* (TRRL)	VIT05-AD	639	617	0	96.56	3.44	SEA	unnamed
8	O/VIT/4/2005	VIT05-04	639	617	0	96.56	3.44	SEA	unnamed
9	O/MOG/2004 (ARRIAH)	MOG04--A	637	615	2	96.55	3.45	SEA	unnamed
10	O/MYA/1/98 (AJ303521)	MYA98-01	630	605	9	96.03	3.97	SEA	Mya-98
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/MYA/7/98 (DQ164925)	MYA98-07	639	613	0	95.93	4.07	SEA	Mya-98
2	O/TAI/189/87* (TRRL)	TAI87-AC	639	585	0	91.55	8.45	SEA	unnamed
3	O/CAM/3/98 (AJ294910)	CAM98-03	639	557	0	87.17	12.83	SEA	Cam-94
4	O/IND/R2/75* (AF204276)	IND75--A	639	551	0	86.23	13.77	ME-SA	unnamed
5	O/UKG/35/2001 (AJ539141)	UKG01-35	639	543	0	84.98	15.02	ME-SA	PanAsia
6	O/ETH/3/2004 (FJ798109)	ETH04-03	639	542	0	84.82	15.18	EA-3	unnamed
7	O/IRN/8/2005	IRN05-08	639	542	0	84.82	15.18	ME-SA	PanAsia-2
8	O/IND/53/79 (AF292107)	IND79A53	639	540	0	84.51	15.49	ME-SA	unnamed
9	O/KUW/3/97 (DQ164904)	KUW97-03	639	539	0	84.35	15.65	ME-SA	Ind-2001a
10	O/UAE/4/2008	UAE08-04	636	535	0	84.12	15.88	ME-SA	Ind-2001c

nt, nucleotides

*, not a WRLFMD reference number

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