

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

Genotyping Report

Report Date for this Batch: 24 May 2016

FMDV type A

Country: Thailand

Period: 2016

No. of samples: 12

BATCH: WRLFMD/2016/00013



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FAO World Reference Laboratory for FMD Genotyping Report

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

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Serotype: A WRLFMD Ref No: TAI/3/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 5/16R3B2 Location: On Nae, Mea On, Chiang Mai, Thailand Date collected: 12/01/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 26/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-03.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/17/2016	TAI16-17	636	635	0	99.84	0.16	ASIA	Sea-97
2	A/TAI/9/2016	TAI16-09	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/6/2016	TAI16-06	636	629	0	98.90	1.10	ASIA	Sea-97
4	A/TAI/7/2016	TAI16-07	636	629	0	98.90	1.10	ASIA	Sea-97
5	A/MYA/2/2015	MYA15-02	633	625	0	98.74	1.26	ASIA	Sea-97
6	A/MYA/3/2015	MYA15-03	633	625	0	98.74	1.26	ASIA	Sea-97
7	A/MYA/4/2015	MYA15-04	633	625	0	98.74	1.26	ASIA	Sea-97
8	A/TAI/11/2016	TAI16-11	636	628	0	98.74	1.26	ASIA	Sea-97
9	A/TAI/13/2016	TAI16-13	636	628	0	98.74	1.26	ASIA	Sea-97
10	A/TAI/15/2016	TAI16-15	636	628	0	98.74	1.26	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	590	0	93.21	6.79	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	569	0	89.89	10.11	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	552	0	87.20	12.80	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	521	0	81.92	18.08	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	514	0	81.20	18.80	ASIA	Iran-87
6	A/GHA/16/73 (KF561698)	GHA73-16	633	512	0	80.88	19.12	AFRICA	G-VI
7	A/IND/40/2000* (1999;AF390646)	IND00-40	636	514	0	80.82	19.18	ASIA	G-VII
8	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	513	0	80.66	19.34	ASIA	A15
9	A/IRN/1/96 (EF208771)	IRN96-01	635	512	1	80.63	19.37	ASIA	Iran-96
10	A/IRN/78/2009	IRN09-78	636	512	0	80.50	19.50	ASIA	Iran-05 ^{FAR-09}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/6/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 19-2/16R3B2 Location: Chachang, Sunkumpang, Chiang Mai, Thailand Date collected: 02/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 26/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-06.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/7/2016	TAI16-07	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/11/2016	TAI16-11	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/13/2016	TAI16-13	636	635	0	99.84	0.16	ASIA	Sea-97
4	A/TAI/15/2016	TAI16-15	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/16/2016	TAI16-16	636	635	0	99.84	0.16	ASIA	Sea-97
6	A/TAI/10/2016	TAI16-10	636	634	0	99.69	0.31	ASIA	Sea-97
7	A/TAI/12/2016	TAI16-12	636	634	0	99.69	0.31	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	629	0	99.37	0.63	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	629	0	99.37	0.63	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	629	0	99.37	0.63	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	594	0	93.84	6.16	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	575	0	90.84	9.16	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	558	0	88.15	11.85	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	527	0	82.86	17.14	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	520	0	82.15	17.85	ASIA	Iran-87
6	A/GHA/16/73 (KF561698)	GHA73-16	633	517	0	81.67	18.33	AFRICA	G-VI
7	A/IND/40/2000* (1999;AF390646)	IND00-40	636	518	0	81.45	18.55	ASIA	G-VII
8	A/IRN/78/2009	IRN09-78	636	518	0	81.45	18.55	ASIA	Iran-05 ^{FAR-09}
9	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	518	0	81.45	18.55	ASIA	A15
10	A/IRN/1/2011	IRN11-01	636	516	0	81.13	18.87	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/7/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 21-2/16R3B2 Location: Donpao, Mea Wang, Chiang Mai, Thailand Date collected: 05/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 26/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-07.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/6/2016	TAI16-06	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/11/2016	TAI16-11	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/13/2016	TAI16-13	636	635	0	99.84	0.16	ASIA	Sea-97
4	A/TAI/15/2016	TAI16-15	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/16/2016	TAI16-16	636	635	0	99.84	0.16	ASIA	Sea-97
6	A/TAI/10/2016	TAI16-10	636	634	0	99.69	0.31	ASIA	Sea-97
7	A/TAI/12/2016	TAI16-12	636	634	0	99.69	0.31	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	629	0	99.37	0.63	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	629	0	99.37	0.63	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	629	0	99.37	0.63	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	594	0	93.84	6.16	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	575	0	90.84	9.16	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	558	0	88.15	11.85	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	527	0	82.86	17.14	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	520	0	82.15	17.85	ASIA	Iran-87
6	A/GHA/16/73 (KF561698)	GHA73-16	633	517	0	81.67	18.33	AFRICA	G-VI
7	A/IND/40/2000* (1999;AF390646)	IND00-40	636	518	0	81.45	18.55	ASIA	G-VII
8	A/IRN/78/2009	IRN09-78	636	518	0	81.45	18.55	ASIA	Iran-05 ^{FAR-09}
9	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	518	0	81.45	18.55	ASIA	A15
10	A/IRN/1/2011	IRN11-01	636	516	0	81.13	18.87	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/8/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 25-1/16R3B2 Location: Wongthong, Moung, Kumpanfpetch, Thailand Date collected: 12/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 26/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-08.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/3/2012	TAI12-03	633	631	0	99.68	0.32	ASIA	Sea-97
2	A/TAI/4/2012	TAI12-04	633	631	0	99.68	0.32	ASIA	Sea-97
3	A/TAI 3/12* (TRRL)	TAI12-AA	633	631	0	99.68	0.32	ASIA	Sea-97
4	A/TAI 4/12* (TRRL)	TAI12-AB	633	631	0	99.68	0.32	ASIA	Sea-97
5	A/MAY/5/2012	MAY12-05	633	630	0	99.53	0.47	ASIA	Sea-97
6	A/TAI/9/2012	TAI12-09	633	629	0	99.37	0.63	ASIA	Sea-97
7	A/MAY/20/2011	MAY11-20	633	628	0	99.21	0.79	ASIA	Sea-97
8	A/TAI/5/2012	TAI12-05	633	628	0	99.21	0.79	ASIA	Sea-97
9	A/TAI/7/2012	TAI12-07	633	628	0	99.21	0.79	ASIA	Sea-97
10	A/TAI/8/2012	TAI12-08	633	627	0	99.05	0.95	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	600	0	94.79	5.21	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	581	0	91.79	8.21	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	557	0	87.99	12.01	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	527	0	82.86	17.14	ASIA	A ₂₂
5	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	525	0	82.55	17.45	ASIA	A15
6	A/IRN/2/87 (EF208770)	IRN87-02	633	522	0	82.46	17.54	ASIA	Iran-87
7	A/IRN/1/2011	IRN11-01	636	522	0	82.08	17.92	ASIA	Iran-05 ^{FAR-11}
8	A/IRN/1/2005 (EF208769)	IRN05-01	636	521	0	81.92	18.08	ASIA	Iran-05
9	A/TUR/1/2008 (FJ755133)	TUR08-01	636	521	0	81.92	18.08	ASIA	Iran-05 ^{ARD-07}
10	A/TUR/33/2008 (FJ755155)	TUR08-33	636	521	0	81.92	18.08	ASIA	Iran-05 ^{EZM-07}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A	Report date: 24/05/2016
WRLFMD Ref No: TAI/9/2016	Reported by: N.J. Knowles
Batch No: WRLFMD/2016/00013	Checked by: K. Bachanek-Bankowska
Sender Ref: 29-1/16R3B2	
Location: On Nae, Mea On, Chiang Mai, Thailand	Topotype: ASIA
Date collected: 16/02/2016	Genotype/strain: Sea-97
Date received by WRLFMD: 21/04/2016	Sequence filename: TAI16-09.SEQ
Date received for sequencing: 09/05/2016	Date sequence last updated: 24/05/2016
Species: Cattle	No. of Nt determined: 636
Material used: BTy1 26/04/2016	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 636
RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Total no. of comparisons: 2119
	Min. no. of nt for comparison: 600
	Total turn-around time: 33 days
	Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/17/2016	TAI16-17	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/3/2016	TAI16-03	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/6/2016	TAI16-06	636	628	0	98.74	1.26	ASIA	Sea-97
4	A/TAI/7/2016	TAI16-07	636	628	0	98.74	1.26	ASIA	Sea-97
5	A/MYA/2/2015	MYA15-02	633	624	0	98.58	1.42	ASIA	Sea-97
6	A/MYA/3/2015	MYA15-03	633	624	0	98.58	1.42	ASIA	Sea-97
7	A/MYA/4/2015	MYA15-04	633	624	0	98.58	1.42	ASIA	Sea-97
8	A/TAI/11/2016	TAI16-11	636	627	0	98.58	1.42	ASIA	Sea-97
9	A/TAI/13/2016	TAI16-13	636	627	0	98.58	1.42	ASIA	Sea-97
10	A/TAI/15/2016	TAI16-15	636	627	0	98.58	1.42	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	589	0	93.05	6.95	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	568	0	89.73	10.27	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	551	0	87.05	12.95	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	520	0	81.76	18.24	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	513	0	81.04	18.96	ASIA	Iran-87
6	A/GHA/16/73 (KF561698)	GHA73-16	633	511	0	80.73	19.27	AFRICA	G-VI
7	A/IND/40/2000* (1999;AF390646)	IND00-40	636	513	0	80.66	19.34	ASIA	G-VII
8	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	512	0	80.50	19.50	ASIA	A15
9	A/IRN/1/96 (EF208771)	IRN96-01	635	511	1	80.47	19.53	ASIA	Iran-96
10	A/IRN/78/2009	IRN09-78	636	511	0	80.35	19.65	ASIA	Iran-05 ^{FAR-09}

nt, nucleotides

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Serotype: A WRLFMD Ref No: TAI/10/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 32-2/16R3B2 Location: Hueyyab, Banthi, Lumphun, Thailand Date collected: 16/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 26/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-10.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/11/2016	TAI16-11	636	635	0	99.84	0.16	ASIA	Sea-97
2	A/TAI/13/2016	TAI16-13	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/15/2016	TAI16-15	636	635	0	99.84	0.16	ASIA	Sea-97
4	A/TAI/16/2016	TAI16-16	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/12/2016	TAI16-12	636	634	0	99.69	0.31	ASIA	Sea-97
6	A/TAI/6/2016	TAI16-06	636	634	0	99.69	0.31	ASIA	Sea-97
7	A/TAI/7/2016	TAI16-07	636	634	0	99.69	0.31	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	629	0	99.37	0.63	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	629	0	99.37	0.63	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	629	0	99.37	0.63	ASIA	Sea-97
Most Closely Related Reference Viruses									
(see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)									
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2	A/TAI/2/97 (EF208778)	TAI97-02	633	575	0	90.84	9.16	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	556	0	87.84	12.16	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	527	0	82.86	17.14	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	522	0	82.46	17.54	ASIA	Iran-87
6	A/IRN/78/2009	IRN09-78	636	520	0	81.76	18.24	ASIA	Iran-05 ^{FAR-09}
7	A/IRN/1/2011	IRN11-01	636	518	0	81.45	18.55	ASIA	Iran-05 ^{FAR-11}
8	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	518	0	81.45	18.55	ASIA	A15
9	A/GHA/16/73 (KF561698)	GHA73-16	633	515	0	81.36	18.64	AFRICA	G-VI
10	A/IND/40/2000* (1999;AF390646)	IND00-40	636	516	0	81.13	18.87	ASIA	G-VII

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/11/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 33-1/16R3B2 Location: Hueyyab, Banthi, Lumphun, Thailand Date collected: 16/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 26/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-11.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/13/2016	TAI16-13	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/15/2016	TAI16-15	636	636	0	100.00	0.00	ASIA	Sea-97
3	A/TAI/16/2016	TAI16-16	636	636	0	100.00	0.00	ASIA	Sea-97
4	A/TAI/10/2016	TAI16-10	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/12/2016	TAI16-12	636	635	0	99.84	0.16	ASIA	Sea-97
6	A/TAI/6/2016	TAI16-06	636	635	0	99.84	0.16	ASIA	Sea-97
7	A/TAI/7/2016	TAI16-07	636	635	0	99.84	0.16	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	630	0	99.53	0.47	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	630	0	99.53	0.47	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	630	0	99.53	0.47	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	595	0	94.00	6.00	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	576	0	91.00	9.00	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	557	0	87.99	12.01	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	526	0	82.70	17.30	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	521	0	82.31	17.69	ASIA	Iran-87
6	A/IRN/78/2009	IRN09-78	636	519	0	81.60	18.40	ASIA	Iran-05 ^{FAR-09}
7	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	519	0	81.60	18.40	ASIA	A15
8	A/GHA/16/73 (KF561698)	GHA73-16	633	516	0	81.52	18.48	AFRICA	G-VI
9	A/IND/40/2000* (1999;AF390646)	IND00-40	636	517	0	81.29	18.71	ASIA	G-VII
10	A/IRN/1/2011	IRN11-01	636	517	0	81.29	18.71	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/12/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 38/16R2 Location: Hueyyab, Banthi, Lumphun, Thailand Date collected: 21/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 27/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-12.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/11/2016	TAI16-11	636	635	0	99.84	0.16	ASIA	Sea-97
2	A/TAI/13/2016	TAI16-13	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/15/2016	TAI16-15	636	635	0	99.84	0.16	ASIA	Sea-97
4	A/TAI/16/2016	TAI16-16	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/10/2016	TAI16-10	636	634	0	99.69	0.31	ASIA	Sea-97
6	A/TAI/6/2016	TAI16-06	636	634	0	99.69	0.31	ASIA	Sea-97
7	A/TAI/7/2016	TAI16-07	636	634	0	99.69	0.31	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	629	0	99.37	0.63	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	629	0	99.37	0.63	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	629	0	99.37	0.63	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	594	0	93.84	6.16	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	575	0	90.84	9.16	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	556	0	87.84	12.16	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	525	0	82.55	17.45	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	520	0	82.15	17.85	ASIA	Iran-87
6	A/GHA/16/73 (KF561698)	GHA73-16	633	516	0	81.52	18.48	AFRICA	G-VI
7	A/IRN/78/2009	IRN09-78	636	518	0	81.45	18.55	ASIA	Iran-05 ^{FAR-09}
8	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	518	0	81.45	18.55	ASIA	A15
9	A/IND/40/2000* (1999;AF390646)	IND00-40	636	516	0	81.13	18.87	ASIA	G-VII
10	A/IRN/1/2011	IRN11-01	636	516	0	81.13	18.87	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/13/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 45/16R2 Location: Hueyyab, Banthi, Lumphun, Thailand Date collected: 27/02/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 27/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-13.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/11/2016	TAI16-11	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/15/2016	TAI16-15	636	636	0	100.00	0.00	ASIA	Sea-97
3	A/TAI/16/2016	TAI16-16	636	636	0	100.00	0.00	ASIA	Sea-97
4	A/TAI/10/2016	TAI16-10	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/12/2016	TAI16-12	636	635	0	99.84	0.16	ASIA	Sea-97
6	A/TAI/6/2016	TAI16-06	636	635	0	99.84	0.16	ASIA	Sea-97
7	A/TAI/7/2016	TAI16-07	636	635	0	99.84	0.16	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	630	0	99.53	0.47	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	630	0	99.53	0.47	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	630	0	99.53	0.47	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	595	0	94.00	6.00	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	576	0	91.00	9.00	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	557	0	87.99	12.01	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	526	0	82.70	17.30	ASIA	A22
5	A/IRN/2/87 (EF208770)	IRN87-02	633	521	0	82.31	17.69	ASIA	Iran-87
6	A/IRN/78/2009	IRN09-78	636	519	0	81.60	18.40	ASIA	Iran-05 ^{FAR-09}
7	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	519	0	81.60	18.40	ASIA	A15
8	A/GHA/16/73 (KF561698)	GHA73-16	633	516	0	81.52	18.48	AFRICA	G-VI
9	A/IND/40/2000* (1999;AF390646)	IND00-40	636	517	0	81.29	18.71	ASIA	G-VII
10	A/IRN/1/2011	IRN11-01	636	517	0	81.29	18.71	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/15/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 54-2/16R3 Location: Lumsompoong, Mouk Lek, Saraburi, Thailand Date collected: 04/03/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 27/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-15.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/11/2016	TAI16-11	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/13/2016	TAI16-13	636	636	0	100.00	0.00	ASIA	Sea-97
3	A/TAI/16/2016	TAI16-16	636	636	0	100.00	0.00	ASIA	Sea-97
4	A/TAI/10/2016	TAI16-10	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/12/2016	TAI16-12	636	635	0	99.84	0.16	ASIA	Sea-97
6	A/TAI/6/2016	TAI16-06	636	635	0	99.84	0.16	ASIA	Sea-97
7	A/TAI/7/2016	TAI16-07	636	635	0	99.84	0.16	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	630	0	99.53	0.47	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	630	0	99.53	0.47	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	630	0	99.53	0.47	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	595	0	94.00	6.00	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	576	0	91.00	9.00	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	557	0	87.99	12.01	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	526	0	82.70	17.30	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	521	0	82.31	17.69	ASIA	Iran-87
6	A/IRN/78/2009	IRN09-78	636	519	0	81.60	18.40	ASIA	Iran-05 ^{FAR-09}
7	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	519	0	81.60	18.40	ASIA	A15
8	A/GHA/16/73 (KF561698)	GHA73-16	633	516	0	81.52	18.48	AFRICA	G-VI
9	A/IND/40/2000* (1999;AF390646)	IND00-40	636	517	0	81.29	18.71	ASIA	G-VII
10	A/IRN/1/2011	IRN11-01	636	517	0	81.29	18.71	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/16/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 53-1/16R3B2 Location: Hueyyab, Banthi, Lumphun, Thailand Date collected: 06/03/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 27/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-16.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/11/2016	TAI16-11	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/13/2016	TAI16-13	636	636	0	100.00	0.00	ASIA	Sea-97
3	A/TAI/15/2016	TAI16-15	636	636	0	100.00	0.00	ASIA	Sea-97
4	A/TAI/10/2016	TAI16-10	636	635	0	99.84	0.16	ASIA	Sea-97
5	A/TAI/12/2016	TAI16-12	636	635	0	99.84	0.16	ASIA	Sea-97
6	A/TAI/6/2016	TAI16-06	636	635	0	99.84	0.16	ASIA	Sea-97
7	A/TAI/7/2016	TAI16-07	636	635	0	99.84	0.16	ASIA	Sea-97
8	A/TAI/12/2015	TAI15-12	633	630	0	99.53	0.47	ASIA	Sea-97
9	A/TAI/17/2014	TAI14-17	633	630	0	99.53	0.47	ASIA	Sea-97
10	A/TAI/24/2015	TAI15-24	633	630	0	99.53	0.47	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	595	0	94.00	6.00	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	576	0	91.00	9.00	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	557	0	87.99	12.01	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	526	0	82.70	17.30	ASIA	A22
5	A/IRN/2/87 (EF208770)	IRN87-02	633	521	0	82.31	17.69	ASIA	Iran-87
6	A/IRN/78/2009	IRN09-78	636	519	0	81.60	18.40	ASIA	Iran-05 ^{FAR-09}
7	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	519	0	81.60	18.40	ASIA	A15
8	A/GHA/16/73 (KF561698)	GHA73-16	633	516	0	81.52	18.48	AFRICA	G-VI
9	A/IND/40/2000* (1999;AF390646)	IND00-40	636	517	0	81.29	18.71	ASIA	G-VII
10	A/IRN/1/2011	IRN11-01	636	517	0	81.29	18.71	ASIA	Iran-05 ^{FAR-11}

nt, nucleotides

*, not a WRLFMD reference number

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Serotype: A WRLFMD Ref No: TAI/17/2016 Batch No: WRLFMD/2016/00013 Sender Ref: 56/16R2 Location: On Klang, Mea On, Chiang Mai, Thailand Date collected: 07/03/2016 Date received by WRLFMD: 21/04/2016 Date received for sequencing: 09/05/2016 Species: Cattle Material used: BTy1 27/04/2016 Region sequenced: VP1 RT-PCR primers: A-1C562F/EUR-2B52R A-1C612F/EUR-2B52R	Report date: 24/05/2016 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: ASIA Genotype/strain: Sea-97 Sequence filename: TAI16-17.SEQ Date sequence last updated: 24/05/2016 No. of Nt determined: 636 No. of ambiguities: 0 Gene length: 636 Total no. of comparisons: 2119 Min. no. of nt for comparison: 600 Total turn-around time: 33 days Sequencing time: 15 days
Comments:	

Most Closely Related Viruses									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	A/TAI/9/2016	TAI16-09	636	636	0	100.00	0.00	ASIA	Sea-97
2	A/TAI/3/2016	TAI16-03	636	635	0	99.84	0.16	ASIA	Sea-97
3	A/TAI/6/2016	TAI16-06	636	628	0	98.74	1.26	ASIA	Sea-97
4	A/TAI/7/2016	TAI16-07	636	628	0	98.74	1.26	ASIA	Sea-97
5	A/MYA/2/2015	MYA15-02	633	624	0	98.58	1.42	ASIA	Sea-97
6	A/MYA/3/2015	MYA15-03	633	624	0	98.58	1.42	ASIA	Sea-97
7	A/MYA/4/2015	MYA15-04	633	624	0	98.58	1.42	ASIA	Sea-97
8	A/TAI/11/2016	TAI16-11	636	627	0	98.58	1.42	ASIA	Sea-97
9	A/TAI/13/2016	TAI16-13	636	627	0	98.58	1.42	ASIA	Sea-97
10	A/TAI/15/2016	TAI16-15	636	627	0	98.58	1.42	ASIA	Sea-97
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	A/TAI/7/2003 (HQ116312)	TAI03-07	633	589	0	93.05	6.95	ASIA	Sea-97
2	A/TAI/2/97 (EF208778)	TAI97-02	633	568	0	89.73	10.27	ASIA	Sea-97
3	A/TAI/118/87* (EF208777)	TAI87-AD	633	551	0	87.05	12.95	ASIA	Thai-87
4	A22/IRQ/64 (AY593763)	IRQ64--A	636	520	0	81.76	18.24	ASIA	A ₂₂
5	A/IRN/2/87 (EF208770)	IRN87-02	633	513	0	81.04	18.96	ASIA	Iran-87
6	A/GHA/16/73 (KF561698)	GHA73-16	633	511	0	80.73	19.27	AFRICA	G-VI
7	A/IND/40/2000* (1999;AF390646)	IND00-40	636	513	0	80.66	19.34	ASIA	G-VII
8	A15/Bangkok/TAI/60 (AY593755)	TAI60--D	636	512	0	80.50	19.50	ASIA	A15
9	A/IRN/1/96 (EF208771)	IRN96-01	635	511	1	80.47	19.53	ASIA	Iran-96
10	A/IRN/78/2009	IRN09-78	636	511	0	80.35	19.65	ASIA	Iran-05 ^{FAR-09}

nt, nucleotides

*, not a WRLFMD reference number

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Report on FMDV A in Thailand in 2016

Batch: WRLFMD/2016/00013

◆ indicates viruses in this batch

Software: MEGA 6.06

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 & K. Bachanek-Bankowska,
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