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Page 1 of 8

To:

Fax Number:

From:

Date: 17th April 2009

Subject: Sequencing Report

No. Of Pages: 8

FAX

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Thank you.

Dear [REDACTED]

Virus isolates: SAT1 ZAM/1/2009, SAT1 ZAM/3/2009, SAT1 ZAM/6/2009, SAT1 ZAM/7/2009, SAT1 ZAM/8/2009 and SAT1 ZAM/9/2009

Sequencing work has now been completed in respect of the above virus isolates received at IAH Pirbright on 30th of March 2009 and the details are as attached. Please note all of our phylogenetic trees can be accessed via the internet at:

http://www.iah.bbsrc.ac.uk/primary_index/current_research/virus/Picornaviridae/Aphthovirus/index.html

Yours sincerely

[REDACTED]
Head, World Reference Laboratory for FMD
[REDACTED]

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Molecular Epidemiology Report Form

IAH-P-EP-MEG-FOR-005-1
Page 1 of 1

Serotype: SAT1 WRL Ref No: ZAM/1/2009 Sender Ref: ZAM 1/09 GT/tm/03/09/7307 Date collected: 01/01/2009 Date received by WRLFMD: 30/03/2009 Date received for sequencing: 09/04/2009 Species: Cattle Material used: BTyl Region sequenced: VP1 RT-PCR primers: SAT1U-OS/SAT-2B208R; SAT1-IC559F/SAT-2B208R No. of Nt determined: 663 No. of ambiguities: 0 Gene length: 663	Report date: 17/04/2009 Reported by: N.J. Knowles Checked by: J.M. Hammond Topotype: I (NWZ) Genotype/strain: none designated Sequence filename: ZAM09-01.SEQ Date sequence last updated: 17/04/2009 Total no. of comparisons: 321 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 8 days
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Comments:

Ten Most Closely Related Viruses

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	SAT1/ZAM/3/2009	ZAM09-03	663	663	0	100	0
2	SAT1/ZAM/6/2009	ZAM09-06	663	662	0	99.85	0.15
3	SAT1/ZAM/7/2009	ZAM09-07	663	662	0	99.85	0.15
4	SAT1/ZAM/8/2009	ZAM09-08	663	662	0	99.85	0.15
5	SAT1/ZAM/9/2009	ZAM09-09	663	662	0	99.85	0.15
6	SAT1/TAN/19/96 (AY442013)	TAN96S19	663	600	0	90.5	9.5
7	SAT1/TAN/51/99 (AY442004)	TAN99S51	663	598	0	90.2	9.8
8	SAT1/KEN/10/2006	KEN06-10	663	596	0	89.89	10.11
9	SAT1/KEN/19/2005	KEN05-19	663	596	0	89.89	10.11
10	SAT1/KEN/24/2005	KEN05-24	663	596	0	89.89	10.11

Relationships to Reference Virus Strains

Pos.	Virus name	Filename	No. nt compared	No. nt matched	No. of ambiguities	% Identity	% Difference
1	SAT1/T155/71	TAN71155	663	595	0	89.74	10.26
2	SAT1/RV/11/37 (AY593839)	RHO37-11	663	518	0	78.13	21.87
3	SAT1/SAR/9/81	SAR81-09	629	489	11	77.74	22.26
4	SAT1/RHO/5/66 (AY593846)	RHO66-05	663	512	0	77.22	22.78
5	SAT1/SR/2/58	ZIM58-02	663	500	0	75.41	24.59
6	SAT1/SA/13/61 (AY593842)	SAR61-13	663	496	0	74.81	25.19
7	SAT1/SWA/40/61	SWA61-40	663	495	0	74.66	25.34
8	SAT1/BOT/1/68 (Z98203)	BOT68-B1	663	487	0	73.45	26.55
9	SAT1/BEC/1/48 (AY593838)	BEC48-01	663	484	0	73	27
10	SAT1/ISR/4/62 (AY593844)	ISR62-04	663	456	0	68.78	31.22

nt, nucleotides
 *, not a WRLFMD reference number

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IAH-P-EP-MEG-FOR-005-1

Page 1 of 1

Serotype: SAT1 WRL Ref No: ZAM/3/2009 Sender Ref: ZAM 3/09 Date collected: 01/01/2009 Date received by WRLFMD: 30/03/2009 Date received for sequencing: 09/04/2009 Species: Cattle Material used: BTy2 Region sequenced: VPI RT-PCR primers: SAT1U-OS/SAT-2B208R; SAT1-1C559F/SAT-2B208R No. of Nt determined: 663 No. of ambiguities: 0 Gene length: 663	Report date: 17/04/2009 Reported by: N.J. Knowles Checked by: J.M. Hammond Topotype: I (NWZ) Genotype/strain: none designated Sequence filename: ZAM09-03.SEQ Date sequence last updated: 17/04/2009 Total no. of comparisons: 321 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 8 days																																																																																								
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Molecular Epidemiology Report Form

IAH-P-EP-MEG-FOR-005-1

Page 1 of 1

Serotype: SAT1 WRL RefNo: ZAM/7/2009 Sender Ref: ZAM 7/09 Date collected: 01/01/2009 Date received by WRLFMD: 30/03/2009 Date received for sequencing: 09/04/2009 Species: Cattle Material used: BTy2 Region sequenced: VP1 RT-PCR primers: SAT1U-OS/SAT-2B208R; SAT1-1C559F/SAT-2B208R No. of Nt determined: 663 No. of ambiguities: 0 Gene length: 663	Report date: 17/04/2009 Reported by: N.J. Knowles Checked by: J.M. Hammond Topotype: I (NWZ) Genotype/strain: none designated Sequence filename: ZAM09-07.SEQ Date sequence last updated: 17/04/2009 Total no. of comparisons: 321 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 8 days																																																																																								
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Molecular Epidemiology Report Form

IAH-P-EP-MEG-FOR-005-1

Page 1 of 1

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Molecular Epidemiology Report Form

IAH-P-EP-MEG-FOR-005-1

Page 1 of 1

Serotype: SAT1 WRL RefNo: ZAM/9/2009 Sender Ref: ZAM 9/09 Date collected: 01/01/2009 Date received by WRLFMD: 30/03/2009 Date received for sequencing: 09/04/2009 Species: Cattle Material used: BTy2 Region sequenced: VP1 RT-PCR primers: SAT1U-OS/SAT-2B208R; SAT1-1C559F/SAT-2B208R No. of Nt determined: 663 No. of ambiguities: 0 Gene length: 663	Report date: 17/04/2009 Reported by: N.J. Knowles Checked by: J.M. Hammond Topotype: I (NWZ) Genotype/strain: none designated Sequence filename: ZAM09-09.SEQ Date sequence last updated: 17/04/2009 Total no. of comparisons: 321 Min. no. of nt for comparison: 300 Total turn-around time: 18 days Sequencing time: 8 days																																																																																								
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Report on FMDV SAT 1 from Zambia in 2009

Batch no. WRLFMD/2009/00016

Software: MEGA 4.0
 No. of Taxa : 118
 Data File : n:\levd\meg\db\fmv\sat1\ZAM2009a.meg
 Data Title : SAT1 Zambia 2009
 Data Type : Nucleotide (Coding)
 Analysis : Phylogeny reconstruction
 Tree Inference : =====
 ->Method : Neighbor-Joining
 ->Phylogeny Test and options : Bootstrap (1000 replicates;
 seed=56677)
 Include Sites : =====
 ->Gaps/Missing Data : Pairwise Deletion
 ->Codon Positions : 1st+2nd+3rd+Noncoding
 Substitution Model : =====
 ->Model : Nucleotide: Kimura 2-parameter
 ->Substitutions to Include : d: Transitions + Transversions
 ->Pattern among Lineages : Same (Homogeneous)
 ->Rates among sites : Uniform rates
 No. of Sites : 663
 No Of Bootstrap Reps = 1000
 Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles & J. Wadsworth, 17 April 2009

