

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

Genotyping Report

Report Date for this Batch: 6 November 2014

FMDV type SAT 2
Country: Zimbabwe
Period: 2010 & 2014
No. of samples: 6

BATCH: WRLFMD/2014/00033



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FAO World Reference Laboratory for FMD Genotyping Report

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| | |
|--|--|
| Serotype: SAT2 WRLFMD Ref No: ZIM/8/2010 Batch No: WRLFMD/2014/00033 Sender Ref: ZIM 04/13 Location: Willsgrove Village, Bulawayo, Bulawayo Province, Zimbabwe Date collected: 18/08/2010 Date received by WRLFMD: 13/10/2014 Date received for sequencing: 04/11/2014 Species: Bovine Material used: BTy1 25/10/2014 Region sequenced: VP1 RT-PCR primers: SAT2-1C445F/SAT-2B208R SAT2-P1-1223F/SAT-2B208R | Report date: 06/11/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: I Genotype/strain: unnamed Sequence filename: ZIM10-08.SEQ Date sequence last updated: 05/11/2014 No. of Nt determined: 648 No. of ambiguities: 0 Gene length: 648 Total no. of comparisons: 666 Min. no. of nt for comparison: 600 Total turn-around time: 24 days Sequencing time: 2 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|--|----------|--------------|---------------|---------------|--------|---------|----------|---------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | SAT2/ZIM/9/2010 | ZIM10-09 | 648 | 648 | 0 | 100.00 | 0.00 | I | unnamed |
| 2 | SAT2/MOZ/1/2010 | MOZ10-01 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 3 | SAT2/MOZ/3/2010 | MOZ10-03 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 4 | SAT2/MOZ/4/2010 | MOZ10-04 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 5 | SAT2/MOZ/5/2010 | MOZ10-05 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 6 | SAT2/MOZ/7/2010 | MOZ10-07 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 7 | SAT2/MOZ/2/2010 | MOZ10-02 | 648 | 645 | 0 | 99.54 | 0.46 | I | Unnamed |
| 8 | SAT2/MOZ/6/2010 | MOZ10-06 | 648 | 645 | 0 | 99.54 | 0.46 | I | Unnamed |
| 9 | SAT2/BOT/3/2011 | BOT11-03 | 648 | 643 | 0 | 99.23 | 0.77 | I | unnamed |
| 10 | SAT2/BOT/7/2011 | BOT11-07 | 648 | 642 | 0 | 99.07 | 0.93 | I | 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 | SAT2/SA/106/59 (AY593848) | RSA59--A | 648 | 539 | 0 | 83.18 | 16.82 | I | unnamed |
| 2 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 522 | 0 | 80.56 | 19.44 | I | unnamed |
| 3 | SAT2/BOT/P3/98 (buffalo 29) (AF367124) | BOT98-AC | 647 | 517 | 1 | 79.91 | 20.09 | III | unnamed |
| 4 | SAT2/RHO/1/48 (AY593847) | ZAM48B01 | 648 | 517 | 0 | 79.78 | 20.22 | III | unnamed |
| 5 | SAT2/KEN/1/84 (K7/84) (AY344505) | KEN84-AB | 648 | 514 | 0 | 79.32 | 20.68 | IV | unnamed |
| 6 | SAT2/MAL/1/2003 | MAL03-01 | 648 | 513 | 0 | 79.17 | 20.83 | I | unnamed |
| 7 | SAT2/ETH/1/90 (1989)(AY343935) | ETH90-AA | 648 | 510 | 0 | 78.70 | 21.30 | IV | unnamed |
| 8 | SAT2/ZIM/7/83 (AF136607) | ZIM83A07 | 648 | 499 | 0 | 77.01 | 22.99 | II | unnamed |
| 9 | SAT2/NIG/2/75 (AF367139) | NIG75-02 | 648 | 483 | 0 | 74.54 | 25.46 | V | unnamed |
| 10 | SAT2/GHA/2/90 (AF479415) | GHA90A02 | 648 | 477 | 0 | 73.61 | 26.39 | V | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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| | |
|--|--|
| Serotype: SAT2 WRLFMD Ref No: ZIM/9/2010 Batch No: WRLFMD/2014/00033 Sender Ref: ZIM 05/13 Location: Willsgrove Village, Bulawayo, Bulawayo Province, Zimbabwe Date collected: 18/08/2010 Date received by WRLFMD: 13/10/2014 Date received for sequencing: 04/11/2014 Species: Bovine Material used: BTy1 25/10/2014 Region sequenced: VP1 RT-PCR primers: SAT2-1C445F/SAT-2B208R SAT2-P1-1223F/SAT-2B208R | Report date: 06/11/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: I Genotype/strain: unnamed Sequence filename: ZIM10-09.SEQ Date sequence last updated: 05/11/2014 No. of Nt determined: 648 No. of ambiguities: 0 Gene length: 648 Total no. of comparisons: 666 Min. no. of nt for comparison: 600 Total turn-around time: 24 days Sequencing time: 2 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|--|----------|--------------|---------------|---------------|--------|---------|----------|---------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | SAT2/ZIM/8/2010 | ZIM10-08 | 648 | 648 | 0 | 100.00 | 0.00 | I | unnamed |
| 2 | SAT2/MOZ/1/2010 | MOZ10-01 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 3 | SAT2/MOZ/3/2010 | MOZ10-03 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 4 | SAT2/MOZ/4/2010 | MOZ10-04 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 5 | SAT2/MOZ/5/2010 | MOZ10-05 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 6 | SAT2/MOZ/7/2010 | MOZ10-07 | 648 | 646 | 0 | 99.69 | 0.31 | I | Unnamed |
| 7 | SAT2/MOZ/2/2010 | MOZ10-02 | 648 | 645 | 0 | 99.54 | 0.46 | I | Unnamed |
| 8 | SAT2/MOZ/6/2010 | MOZ10-06 | 648 | 645 | 0 | 99.54 | 0.46 | I | Unnamed |
| 9 | SAT2/BOT/3/2011 | BOT11-03 | 648 | 643 | 0 | 99.23 | 0.77 | I | unnamed |
| 10 | SAT2/BOT/7/2011 | BOT11-07 | 648 | 642 | 0 | 99.07 | 0.93 | I | 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 | SAT2/SA/106/59 (AY593848) | RSA59--A | 648 | 539 | 0 | 83.18 | 16.82 | I | unnamed |
| 2 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 522 | 0 | 80.56 | 19.44 | I | unnamed |
| 3 | SAT2/BOT/P3/98 (buffalo 29) (AF367124) | BOT98-AC | 647 | 517 | 1 | 79.91 | 20.09 | III | unnamed |
| 4 | SAT2/RHO/1/48 (AY593847) | ZAM48B01 | 648 | 517 | 0 | 79.78 | 20.22 | III | unnamed |
| 5 | SAT2/KEN/1/84 (K7/84) (AY344505) | KEN84-AB | 648 | 514 | 0 | 79.32 | 20.68 | IV | unnamed |
| 6 | SAT2/MAL/1/2003 | MAL03-01 | 648 | 513 | 0 | 79.17 | 20.83 | I | unnamed |
| 7 | SAT2/ETH/1/90 (1989)(AY343935) | ETH90-AA | 648 | 510 | 0 | 78.70 | 21.30 | IV | unnamed |
| 8 | SAT2/ZIM/7/83 (AF136607) | ZIM83A07 | 648 | 499 | 0 | 77.01 | 22.99 | II | unnamed |
| 9 | SAT2/NIG/2/75 (AF367139) | NIG75-02 | 648 | 483 | 0 | 74.54 | 25.46 | V | unnamed |
| 10 | SAT2/GHA/2/90 (AF479415) | GHA90A02 | 648 | 477 | 0 | 73.61 | 26.39 | V | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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|---|--|
| Serotype: SAT2 | Report date: 06/11/2014 |
| WRLFMD Ref No: ZIM/10/2010 | Reported by: N.J. Knowles |
| Batch No: WRLFMD/2014/00033 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: ZIM 8/13 | |
| Location: Stelmarcoe Dip Tank, Mwenezi District, Masvingo Province, Zimbabwe | Topotype: I |
| Date collected: 18/08/2010 | Genotype/strain: unnamed |
| Date received by WRLFMD: 13/10/2014 | Sequence filename: ZIM10-10.SEQ |
| Date received for sequencing: 04/11/2014 | Date sequence last updated: 05/11/2014 |
| Species: Bovine | No. of Nt determined: 648 |
| Material used: BTy1 25/10/2014 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 648 |
| RT-PCR primers: SAT2-1C445F/SAT-2B208R | Total no. of comparisons: 666 |
| SAT2-P1-1223F/SAT-2B208R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 24 days |
| | Sequencing time: 2 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|--|----------|--------------|---------------|---------------|-------|---------|----------|---------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | SAT2/ZIM/5/2010 | ZIM10-05 | 648 | 623 | 0 | 96.14 | 3.86 | I | unnamed |
| 2 | SAT2/ZIM/6/2010 | ZIM10-06 | 648 | 623 | 0 | 96.14 | 3.86 | I | unnamed |
| 3 | SAT2/ZIM/1/2004 (BTy plaque 5) | ZIM04G01 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 4 | SAT2/ZIM/11/2003 | ZIM03-11 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 5 | SAT2/ZIM/12/2003 | ZIM03-12 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 6 | SAT2/ZIM/14/2003 | ZIM03-14 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 7 | SAT2/ZIM/15/2003 | ZIM03-15 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 8 | SAT2/ZIM/17/2003 | ZIM03-17 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 9 | SAT2/ZIM/18/2002 | ZIM02-18 | 648 | 611 | 0 | 94.29 | 5.71 | I | unnamed |
| 10 | SAT2/ZIM/2/2003 | ZIM03-02 | 648 | 611 | 0 | 94.29 | 5.71 | I | 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 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 610 | 0 | 94.14 | 5.86 | I | unnamed |
| 2 | SAT2/SA/106/59 (AY593848) | RSA59--A | 648 | 527 | 0 | 81.33 | 18.67 | I | unnamed |
| 3 | SAT2/ETH/1/90 (1989)(AY343935) | ETH90-AA | 648 | 514 | 0 | 79.32 | 20.68 | IV | unnamed |
| 4 | SAT2/MAL/1/2003 | MAL03-01 | 648 | 514 | 0 | 79.32 | 20.68 | I | unnamed |
| 5 | SAT2/KEN/1/84 (K7/84) (AY344505) | KEN84-AB | 648 | 508 | 0 | 78.40 | 21.60 | IV | unnamed |
| 6 | SAT2/BOT/P3/98 (buffalo 29) (AF367124) | BOT98-AC | 647 | 498 | 1 | 76.97 | 23.03 | III | unnamed |
| 7 | SAT2/RHO/1/48 (AY593847) | ZAM48B01 | 648 | 498 | 0 | 76.85 | 23.15 | III | unnamed |
| 8 | SAT2/ZIM/5/81 (EF134951) | ZIM81-AA | 648 | 491 | 0 | 75.77 | 24.23 | II | unnamed |
| 9 | SAT2/ZIM/7/83 (AF136607) | ZIM83A07 | 648 | 485 | 0 | 74.85 | 25.15 | II | unnamed |
| 10 | SAT2/ZAI/1/82 (AF367100) | ZAI82-01 | 647 | 475 | 1 | 73.42 | 26.58 | X | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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|--|---|
| Serotype: SAT2 WRLFMD Ref No: ZIM/1/2014 Batch No: WRLFMD/2014/00033 Sender Ref: ZIM 11/14 Location: Rutenga, Mwenzi District, Masvingo Province, Zimbabwe Date collected: 30/05/2014 Date received by WRLFMD: 13/10/2014 Date received for sequencing: 04/11/2014 Species: Bovine Material used: BTy1 31/10/2014 Region sequenced: VP1 RT-PCR primers: SAT2-1C445F/SAT-2B208R SAT2-P1-1223F/SAT-2B208R | Report date: 06/11/2014 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: II Genotype/strain: unnamed Sequence filename: ZIM14-01.SEQ Date sequence last updated: 05/11/2014 No. of Nt determined: 648 No. of ambiguities: 0 Gene length: 648 Total no. of comparisons: 666 Min. no. of nt for comparison: 600 Total turn-around time: 24 days Sequencing time: 2 days |
| Comments: | |

Most Closely Related Viruses

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|--|-----------|--------------|---------------|---------------|--------|---------|----------|---------|
| 1 | SAT2/ZIM/11/2014 (BVI) | ZIM14-AA | 628 | 628 | 0 | 100.00 | 0.00 | II | unnamed |
| 2 | SAT2/BOT-BUFF/170/74 (buffalo) | BOT74B170 | 648 | 601 | 0 | 92.75 | 7.25 | II | unnamed |
| 3 | SAT2/BOT/P3/98 NXA-18 | BOT98NAM | 631 | 575 | 0 | 91.13 | 8.87 | ? | unnamed |
| 4 | SAT2/ZIM/2/2010 | ZIM10-02 | 648 | 590 | 0 | 91.05 | 8.95 | II | Unnamed |
| 5 | SAT2/ZIM/4/2010 | ZIM10-04 | 648 | 590 | 0 | 91.05 | 8.95 | II | Unnamed |
| 6 | SAT2/BOT/P3/98 (buffalo 18) (AF367123) | BOT98-AB | 648 | 589 | 0 | 90.90 | 9.10 | II | unnamed |
| 7 | SAT2/ZIM/16/89 buffalo | ZIM89B16 | 648 | 589 | 0 | 90.90 | 9.10 | II | unnamed |
| 8 | SAT2/ZIM/6/88 buffalo | ZIM88B06 | 648 | 589 | 0 | 90.90 | 9.10 | II | unnamed |
| 9 | SAT2/ZIM/7/88 buffalo | ZIM88B07 | 648 | 589 | 0 | 90.90 | 9.10 | II | unnamed |
| 10 | SAT2/ZIM/9/88 buffalo | ZIM88B09 | 648 | 589 | 0 | 90.90 | 9.10 | II | 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 | SAT2/ZIM/7/83 (AF136607) | ZIM83A07 | 648 | 585 | 0 | 90.28 | 9.72 | II | unnamed |
| 2 | SAT2/ZIM/5/81 (EF134951) | ZIM81-AA | 648 | 524 | 0 | 80.86 | 19.14 | II | unnamed |
| 3 | SAT2/SA/106/59 (AY593848) | RSA59--A | 648 | 498 | 0 | 76.85 | 23.15 | I | unnamed |
| 4 | SAT2/RHO/1/48 (AY593847) | ZAM48B01 | 648 | 495 | 0 | 76.39 | 23.61 | III | unnamed |
| 5 | SAT2/ETH/1/90 (1989)(AY343935) | ETH90-AA | 648 | 493 | 0 | 76.08 | 23.92 | IV | unnamed |
| 6 | SAT2/MAL/1/2003 | MAL03-01 | 648 | 490 | 0 | 75.62 | 24.38 | I | unnamed |
| 7 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 490 | 0 | 75.62 | 24.38 | I | unnamed |
| 8 | SAT2/BOT/P3/98 (buffalo 29) (AF367124) | BOT98-AC | 647 | 489 | 1 | 75.58 | 24.42 | III | unnamed |
| 9 | SAT2/KEN/1/84 (K7/84) (AY344505) | KEN84-AB | 648 | 488 | 0 | 75.31 | 24.69 | IV | unnamed |
| 10 | SAT2/NIG/2/75 (AF367139) | NIG75-02 | 648 | 484 | 0 | 74.69 | 25.31 | V | unnamed |

nt, nucleotides

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|--|--|
| Serotype: SAT2 | Report date: 06/11/2014 |
| WRLFMD Ref No: ZIM/3/2014 | Reported by: N.J. Knowles |
| Batch No: WRLFMD/2014/00033 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: ZIM 03/14 | |
| Location: Chiredzana Dip Tank, Zaka District, Masvingo Province, Zimbabwe | Topotype: I |
| Date collected: 02/09/2014 | Genotype/strain: unnamed |
| Date received by WRLFMD: 13/10/2014 | Sequence filename: ZIM14-03.SEQ |
| Date received for sequencing: 04/11/2014 | Date sequence last updated: 05/11/2014 |
| Species: Bovine | No. of Nt determined: 648 |
| Material used: BTy1 31/10/2014 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 648 |
| RT-PCR primers: SAT2-1C445F/SAT-2B208R SAT2-P1-1223F/SAT-2B208R | Total no. of comparisons: 666 |
| | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 24 days |
| | Sequencing time: 2 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|--|----------|--------------|---------------|---------------|--------|---------|----------|---------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | SAT2/ZIM/5/2014 | ZIM14-05 | 648 | 648 | 0 | 100.00 | 0.00 | I | unnamed |
| 2 | SAT2/ZIM/12/2002 | ZIM02-12 | 648 | 606 | 0 | 93.52 | 6.48 | I | unnamed |
| 3 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 606 | 0 | 93.52 | 6.48 | I | unnamed |
| 4 | SAT2/ZIM/13/2002 | ZIM02-13 | 648 | 605 | 0 | 93.36 | 6.64 | I | unnamed |
| 5 | SAT2/ZIM/15/2002 | ZIM02-15 | 648 | 605 | 0 | 93.36 | 6.64 | I | unnamed |
| 6 | SAT2/ZIM/2/2003 | ZIM03-02 | 648 | 602 | 0 | 92.90 | 7.10 | I | unnamed |
| 7 | SAT2/ZIM/20/2003 | ZIM03-20 | 648 | 602 | 0 | 92.90 | 7.10 | I | unnamed |
| 8 | SAT2/ZIM/3/2003 | ZIM03-03 | 648 | 602 | 0 | 92.90 | 7.10 | I | unnamed |
| 9 | SAT2/ZIM/1/2004 | ZIM04-01 | 617 | 573 | 31 | 92.87 | 7.13 | I | unnamed |
| 10 | SAT2/ZIM/P1/2004 (B7) | ZIM04-AI | 644 | 598 | 2 | 92.86 | 7.14 | I | 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 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 606 | 0 | 93.52 | 6.48 | I | unnamed |
| 2 | SAT2/SA/106/59 (AY593848) | RSA59--A | 648 | 526 | 0 | 81.17 | 18.83 | I | unnamed |
| 3 | SAT2/MAL/1/2003 | MAL03-01 | 648 | 516 | 0 | 79.63 | 20.37 | I | unnamed |
| 4 | SAT2/KEN/1/84 (K7/84) (AY344505) | KEN84-AB | 648 | 506 | 0 | 78.09 | 21.91 | IV | unnamed |
| 5 | SAT2/ETH/1/90 (1989)(AY343935) | ETH90-AA | 648 | 503 | 0 | 77.62 | 22.38 | IV | unnamed |
| 6 | SAT2/BOT/P3/98 (buffalo 29) (AF367124) | BOT98-AC | 647 | 501 | 1 | 77.43 | 22.57 | III | unnamed |
| 7 | SAT2/RHO/1/48 (AY593847) | ZAM48B01 | 648 | 489 | 0 | 75.46 | 24.54 | III | unnamed |
| 8 | SAT2/ZIM/5/81 (EF134951) | ZIM81-AA | 648 | 486 | 0 | 75.00 | 25.00 | II | unnamed |
| 9 | SAT2/ZIM/7/83 (AF136607) | ZIM83A07 | 648 | 481 | 0 | 74.23 | 25.77 | II | unnamed |
| 10 | SAT2/GAM/8/79 (AF479410) | GAM79-08 | 648 | 474 | 0 | 73.15 | 26.85 | VI | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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| | |
|--|--|
| Serotype: SAT2 | Report date: 06/11/2014 |
| WRLFMD Ref No: ZIM/5/2014 | Reported by: N.J. Knowles |
| Batch No: WRLFMD/2014/00033 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: ZIM 07/14 | |
| Location: Chiredzana Dip Tank, Zaka District, Masvingo Province, Zimbabwe | Topotype: I |
| Date collected: 02/09/2014 | Genotype/strain: unnamed |
| Date received by WRLFMD: 13/10/2014 | Sequence filename: ZIM14-05.SEQ |
| Date received for sequencing: 04/11/2014 | Date sequence last updated: 05/11/2014 |
| Species: Bovine | No. of Nt determined: 648 |
| Material used: BTy1 31/10/2014 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 648 |
| RT-PCR primers: SAT2-1C445F/SAT-2B208R SAT2-P1-1223F/SAT-2B208R | Total no. of comparisons: 666 |
| | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 24 days |
| | Sequencing time: 2 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|--|----------|--------------|---------------|---------------|--------|---------|----------|---------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | SAT2/ZIM/3/2014 | ZIM14-03 | 648 | 648 | 0 | 100.00 | 0.00 | I | unnamed |
| 2 | SAT2/ZIM/12/2002 | ZIM02-12 | 648 | 606 | 0 | 93.52 | 6.48 | I | unnamed |
| 3 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 606 | 0 | 93.52 | 6.48 | I | unnamed |
| 4 | SAT2/ZIM/13/2002 | ZIM02-13 | 648 | 605 | 0 | 93.36 | 6.64 | I | unnamed |
| 5 | SAT2/ZIM/15/2002 | ZIM02-15 | 648 | 605 | 0 | 93.36 | 6.64 | I | unnamed |
| 6 | SAT2/ZIM/2/2003 | ZIM03-02 | 648 | 602 | 0 | 92.90 | 7.10 | I | unnamed |
| 7 | SAT2/ZIM/20/2003 | ZIM03-20 | 648 | 602 | 0 | 92.90 | 7.10 | I | unnamed |
| 8 | SAT2/ZIM/3/2003 | ZIM03-03 | 648 | 602 | 0 | 92.90 | 7.10 | I | unnamed |
| 9 | SAT2/ZIM/1/2004 | ZIM04-01 | 617 | 573 | 31 | 92.87 | 7.13 | I | unnamed |
| 10 | SAT2/ZIM/P1/2004 (B7) | ZIM04-AI | 644 | 598 | 2 | 92.86 | 7.14 | I | 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 | SAT2/ZIM/14/2002 (KF219689) | ZIM02-14 | 648 | 606 | 0 | 93.52 | 6.48 | I | unnamed |
| 2 | SAT2/SA/106/59 (AY593848) | RSA59--A | 648 | 526 | 0 | 81.17 | 18.83 | I | unnamed |
| 3 | SAT2/MAL/1/2003 | MAL03-01 | 648 | 516 | 0 | 79.63 | 20.37 | I | unnamed |
| 4 | SAT2/KEN/1/84 (K7/84) (AY344505) | KEN84-AB | 648 | 506 | 0 | 78.09 | 21.91 | IV | unnamed |
| 5 | SAT2/ETH/1/90 (1989)(AY343935) | ETH90-AA | 648 | 503 | 0 | 77.62 | 22.38 | IV | unnamed |
| 6 | SAT2/BOT/P3/98 (buffalo 29) (AF367124) | BOT98-AC | 647 | 501 | 1 | 77.43 | 22.57 | III | unnamed |
| 7 | SAT2/RHO/1/48 (AY593847) | ZAM48B01 | 648 | 489 | 0 | 75.46 | 24.54 | III | unnamed |
| 8 | SAT2/ZIM/5/81 (EF134951) | ZIM81-AA | 648 | 486 | 0 | 75.00 | 25.00 | II | unnamed |
| 9 | SAT2/ZIM/7/83 (AF136607) | ZIM83A07 | 648 | 481 | 0 | 74.23 | 25.77 | II | unnamed |
| 10 | SAT2/GAM/8/79 (AF479410) | GAM79-08 | 648 | 474 | 0 | 73.15 | 26.85 | VI | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

Assembled with Report Generator v4.3

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Report on FMDV SAT 2 in Zimbabwe in 2010 & 2014

Batch: WRLFMD/2014/00033

◆ 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 : 651

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,
06 November 2014

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