

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

Genotyping Report

FMDV serotype: SAT1
Country: Kenya
Year: 2017
Batch: WRLFMD/2018/00023
No. of sequences: 1
Report date: 24th September 2018
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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www: <http://www.wrlfmd.org/>

email: reporting@pirbright.ac.uk

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| | |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Virus sample name: | KEN/8/2017 |
| Sender reference: | K14/17 |
| Location of origin: | Subukia, Nakuru |
| Country of origin: | Kenya |
| Date of collection: | 16/03/2017 |
| Host species: | bovine |
| Serotype: | SAT1 |
| Topotype: | I |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 657 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | BTy1 |
| Harvest date of material: | 05/09/2018 |
| Primers: | SAT1-1C559F/SAT-2B208R; SAT1U-OS/SAT-2B208R; FMD-3161F/FMD-4303R |
| Received for sequencing: | 17/09/2018 |
| Created: | 24/09/2018 |
| Last updated: | 24/09/2018 |
| VIBASys IDs: sample 37407, genome 37408, sequence viba_37409, sequencing info 37410 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|--------|-------|----------|----------|----------|---------|------------|
| viba_35581 | KEN/1/2017 | cattle | 97.4 | 0 | SAT1 | I | | |
| viba_466 | T155/71 | cattle | 88.9 | 0 | SAT1 | I | | |
| viba_1576 | T155/71 | cattle | 88.9 | 0 | SAT1 | I | | |
| viba_32061 | K303/83 | | 88.9 | 0 | SAT1 | I | | |
| viba_16578 | KEN/75/2010 | cattle | 88.7 | 0 | SAT1 | I | | |
| viba_2965 | TAN/5/96 | cattle | 88.7 | 0 | SAT1 | I | | |
| viba_6380 | KEN/21/2004 | cattle | 88.7 | 0 | SAT1 | I | | |
| viba_2975 | TAN/5/96 | cattle | 88.7 | 0 | SAT1 | I | | |
| viba_1573 | TAN/2/71 | cattle | 88.3 | 0 | SAT1 | I | | |
| viba_1920 | K110/81 | | 88.1 | 0 | SAT1 | I | | |

Most Closely Related Prototype Sequences

see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|----------------------|-----------------|-------|----------|----------|----------|---------|------------|
| viba_466 | T155/71 | cattle | 88.9 | 0 | SAT1 | I | | |
| viba_243 | ZIM/23/2003 | | 78.8 | 0 | SAT1 | I | | |
| viba_462 | RV/11/37 | greater kudu | 76.9 | 0 | SAT1 | II | | |
| viba_709 | RHO/5/66 | bovine | 76.3 | 0 | SAT1 | II | | |
| viba_509 | BOT/1/77 | bovine | 76.3 | 0 | SAT1 | III | | |
| viba_514 | UGA-BUFF/21/70 | African buffalo | 76.2 | 0 | SAT1 | IV | | |
| viba_16635 | MOZ/P13/2010 BUF B16 | African buffalo | 76.1 | 0 | SAT1 | XIII | | |
| viba_30769 | MOZ/1/75 | cattle | 74.7 | 0 | SAT1 | XIII | | |
| viba_495 | BOT/1/68 | bovine | 74.4 | 0 | SAT1 | III | | |
| viba_212 | BEC/1/48 | | 74.2 | 0 | SAT1 | III | | |

Report on FMDV SAT1 in Kenya in 2017

Batch: WRLFMD/2018/00023



*, not a WRLFMD Reference Number

Analysis Parameters

| | |
|----------------------------------------|--------------------------------------------|
| VP1 subsequence extractor: | vp1_SAT1 |
| Query sequence set: | WRLFMD/2018/00023-Kenya-SAT1 (1 sequences) |
| Sequence database set: | allseqs_SAT1 (625 sequences) |
| Prototype sequence set: | !prototypes_SAT1 (19 sequences) |
| Number of related sequences reported: | 10 |
| Minimal VP1 subsequence match length | 600 |
| Sequence alignment method: | muscle (default parameters) |
| Sequence alignment length: | 657 |
| Phylogeny reconstruction method: | fdnadist, fneighbor |
| Number of bootstrap samples: | 1000 |
| Random seed for bootstrapping: | 1 |
| Displaying bootstrap values above: | 70.0% |
| Number of sequences in tree capped at: | 100 |
| Number of prototype sequences in tree: | 10 |
| VIBASys version: | reflabs-1.1.2 |

Sequences in the Phylogenetic Tree

All sequences in the tree are in taxonomic group FMDV/SAT1

| label | accession | host(s) | lab | country | taxonomic information |
|--------------|-----------|---------|--------|----------|-----------------------|
| KEN/8/2017 | n/a | bovine | WRLFMD | Kenya | I |
| KEN/1/2017 | n/a | cattle | WRLFMD | Kenya | I |
| K110/81* | HQ267521 | n/a | n/a | Kenya | I |
| K303/83* | n/a | n/a | TPI | Kenya | I |
| K66/80* | HQ267520 | n/a | n/a | Kenya | I |
| TAN/2/71 | KF561707 | cattle | WRLFMD | Tanzania | I |
| T155/71* | KF561706 | cattle | WRLFMD | Tanzania | I |
| KEN/75/2010 | KR188468 | cattle | WRLFMD | Kenya | I |
| KEN/21/2004 | KR188451 | cattle | WRLFMD | Kenya | I |
| TAN/5/96 | KF561711 | cattle | WRLFMD | Tanzania | I |
| TAN/5/96 | AY442007 | cattle | OVI | Tanzania | I |
| T155/71* | HQ267519 | cattle | n/a | Tanzania | I |
| KEN/11/91 | AY441994 | n/a | OVI | Kenya | I |
| KEN/9/91 | AY441995 | n/a | OVI | Kenya | I |
| KEN/121/2009 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/104/2009 | n/a | cattle | WRLFMD | Kenya | I |
| ZAM/6/2009 | n/a | cattle | WRLFMD | Zambia | I |
| ZAM/3/2009 | n/a | cattle | WRLFMD | Zambia | I |
| ZAM/1/2009 | n/a | cattle | WRLFMD | Zambia | I |
| ZAM/9/2009 | n/a | cattle | WRLFMD | Zambia | I |
| ZAM/8/2009 | n/a | cattle | WRLFMD | Zambia | I |
| ZAM/7/2009 | n/a | cattle | WRLFMD | Zambia | I |
| KEN/31/2005 | n/a | cattle | WRLFMD | Kenya | I |
| K67/05* | HQ267526 | cattle | n/a | Kenya | I |
| KEN/13/2005 | n/a | cattle | WRLFMD | Kenya | I |
| K57/05* | HQ267525 | cattle | n/a | Kenya | I |
| K58/99* | HQ267522 | n/a | n/a | Kenya | I |
| KEN/5/2006 | KR188453 | cattle | WRLFMD | Kenya | I |
| KEN/32/2005 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/11/2006 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/10/2006 | KR188454 | cattle | WRLFMD | Kenya | I |
| KEN/24/2005 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/9/2006 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/16/2005 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/18/2005 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/19/2005 | n/a | cattle | WRLFMD | Kenya | I |

continued on next page

| label | accession | host(s) | lab | country | taxonomic information |
|-----------------------|-----------|-----------------|--------|---------------|-----------------------|
| KEN/17/2005 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/8/2009 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/16/2009 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/35/2008 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/23/2008 | n/a | cattle | WRLFMD | Kenya | I |
| KEN/22/2008 | KR188455 | cattle | WRLFMD | Kenya | I |
| KEN/32/2008 | n/a | cattle | WRLFMD | Kenya | I |
| BUN/1/99 | n/a | cattle | WRLFMD | Burundi | I |
| BUN/2/99 | n/a | cattle | WRLFMD | Burundi | I |
| TAN/21/99 | KF561715 | cattle | WRLFMD | Tanzania | I |
| TAN/25/99 | KF561716 | cattle | WRLFMD | Tanzania | I |
| TAN/19/99 | KF561714 | cattle | WRLFMD | Tanzania | I |
| TAN/29/2013 | MF592662 | cattle | WRLFMD | Tanzania | I |
| TAN/27/2013 | MF592661 | cattle | WRLFMD | Tanzania | I |
| TAN/22/2013 | MF592656 | cattle | WRLFMD | Tanzania | I |
| TAN/25/2013 | MF592659 | cattle | WRLFMD | Tanzania | I |
| TAN/21/2013 | n/a | cattle | WRLFMD | Tanzania | I |
| TAN/20/2013 | MF592655 | cattle | WRLFMD | Tanzania | I |
| TAN/23/2013 | MF592657 | cattle | WRLFMD | Tanzania | I |
| TAN/24/2013 | MF592658 | cattle | WRLFMD | Tanzania | I |
| TAN/30/2013 | MF592663 | cattle | WRLFMD | Tanzania | I |
| TAN/31/2013 | MF592664 | cattle | WRLFMD | Tanzania | I |
| TAN/32/2013 | n/a | cattle | WRLFMD | Tanzania | I |
| TAN/11/2014 | MF592672 | bovine | WRLFMD | Tanzania | I |
| TAN/12/2014 | MF592673 | bovine | WRLFMD | Tanzania | I |
| TAN/20/2014 | MF592680 | bovine | WRLFMD | Tanzania | I |
| TAN/13/2014 | MF592674 | bovine | WRLFMD | Tanzania | I |
| TAN/32/2014 | MF592689 | bovine | WRLFMD | Tanzania | I |
| TAN/29/2014 | MF592687 | bovine | WRLFMD | Tanzania | I |
| TAN/30/2014 | MF592688 | bovine | WRLFMD | Tanzania | I |
| TAN/31/2014 | n/a | bovine | WRLFMD | Tanzania | I |
| TAN/23/2014 | n/a | bovine | WRLFMD | Tanzania | I |
| TAN/21/2014 | MF592681 | bovine | WRLFMD | Tanzania | I |
| TAN/22/2014 | MF592682 | bovine | WRLFMD | Tanzania | I |
| TAN/24/2014 | MF592683 | bovine | WRLFMD | Tanzania | I |
| TAN/26/2014 | MF592685 | bovine | WRLFMD | Tanzania | I |
| TAN/27/2014 | n/a | bovine | WRLFMD | Tanzania | I |
| TAN/25/2014 | MF592684 | bovine | WRLFMD | Tanzania | I |
| TAN/17/2014 | MF592677 | bovine | WRLFMD | Tanzania | I |
| TAN/18/2014 | MF592678 | bovine | WRLFMD | Tanzania | I |
| TAN/41/2014 | MF592696 | bovine | WRLFMD | Tanzania | I |
| TAN/28/2014 | MF592686 | bovine | WRLFMD | Tanzania | I |
| TAN/34/2014 | MF592691 | bovine | WRLFMD | Tanzania | I |
| TAN/33/2014 | MF592690 | bovine | WRLFMD | Tanzania | I |
| TAN/19/2014 | MF592679 | bovine | WRLFMD | Tanzania | I |
| TAN/37/2014 | MF592694 | bovine | WRLFMD | Tanzania | I |
| TAN/38/2014 | MF592695 | bovine | WRLFMD | Tanzania | I |
| TAN/36/2014 | MF592693 | bovine | WRLFMD | Tanzania | I |
| TAN/14/2014 | MF592675 | bovine | WRLFMD | Tanzania | I |
| TAN/15/2014 | n/a | bovine | WRLFMD | Tanzania | I |
| TAN/16/2014 | MF592676 | bovine | WRLFMD | Tanzania | I |
| TAN/35/2014 | MF592692 | bovine | WRLFMD | Tanzania | I |
| TAN/37/99 | DQ009718 | cattle | OVI | Tanzania | I |
| TAN/43/99 | KF561719 | cattle | WRLFMD | Tanzania | I |
| ZIM/23/2003 | KF219690 | n/a | WRLFMD | Zimbabwe | I |
| UGA-BUFF/21/70* | KF219682 | African buffalo | WRLFMD | Uganda | IV |
| RV/11/37 | AY593839 | greater kudu | PIADC | Rhodesia (RV) | II |
| RHO/5/66 | AY593846 | bovine | PIADC | Rhodesia | II |
| MOZ/P13/2010 BUF B16* | KF219691 | African buffalo | WRLFMD | Mozambique | XIII |
| MOZ/1/75 | MG972461 | cattle | WRLFMD | Mozambique | XIII |
| BOT/1/68 | AY593845 | bovine | PIADC | Botswana | III |
| BOT/1/77 | KF219686 | bovine | WRLFMD | Botswana | III |
| BEC/1/48 | AY593838 | n/a | PIADC | Bechuanaland | III |

*, not a WRLFMD Reference Number
n/a, not available