

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

Genotyping Report v.2

FMDV serotype: O
Country: Ghana
Year: 2021
Batch: WRLMEG/2022/00024
No. of sequences: 7
Report date: 1st August 2022
Report generated by: ██████████
Report checked by: ██████████

This report has been prepared on behalf of the National Centre for Foreign Animal Disease (NCFAD), Canadian Food Inspection Agency (CFIA/ACIA), Winnipeg, Manitoba, Canada and covers sequences submitted to the WRLFMD on 29/07/2022.



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

email: reporting@pirbright.ac.uk

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| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/03 |
| Sender reference: | AVL/FMD/21/03 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51153, genome 51154, sequence viba_51155, sequencing info 51156 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------------|--------|-------|----------|----------|----------|---------|------------|
| viba_51179 | GHA/AVL/FMD/21/23 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51175 | GHA/AVL/FMD/21/22 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51163 | GHA/AVL/FMD/21/08 | cattle | 99.7 | 0 | O | EA-3 | | |
| viba_51159 | GHA/AVL/FMD/21/06 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_51167 | GHA/AVL/FMD/21/11 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50178 | NIG/12/2021 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50102 | TUN/22Z752/22 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50094 | TUN/22Z750/22 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50480 | TUN/1/2022 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50114 | TUN/22Z756/22 | cattle | 99.2 | 0 | O | EA-3 | | |

Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.2 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.2 | 0 | O | EA-4 | | |
| viba_854 | ETH/1/2007 | cattle | 85.0 | 0 | O | EA-3 | | |
| viba_104 | GHA/5/93 | bovine | 84.4 | 0 | O | WA | | |
| viba_408 | ETH/3/2004 | cattle | 83.8 | 0 | O | EA-3 | | |
| viba_30238 | MUR/19/2016 | cattle | 83.7 | 0 | O | ME-SA | Ind-2001 | e |
| viba_68 | TAI/189/87 | bovine | 83.3 | 0 | O | SEA | | |
| viba_285 | UKG/35/2001 | porcine | 83.1 | 0 | O | ME-SA | PanAsia | |
| viba_199 | MYA/7/98 | bovine | 83.1 | 0 | O | SEA | Mya-98 | |
| viba_621 | ETH/58/2005 | bovine | 83.0 | 0 | O | EA-4 | | |

| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/06 |
| Sender reference: | AVL/FMD/21/06 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51157, genome 51158, sequence viba_51159, sequencing info 51160 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------------|--------|-------|----------|----------|----------|---------|------------|
| viba_51179 | GHA/AVL/FMD/21/23 | cattle | 99.7 | 0 | O | EA-3 | | |
| viba_51175 | GHA/AVL/FMD/21/22 | cattle | 99.7 | 0 | O | EA-3 | | |
| viba_51155 | GHA/AVL/FMD/21/03 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_51163 | GHA/AVL/FMD/21/08 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_51167 | GHA/AVL/FMD/21/11 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50178 | NIG/12/2021 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50102 | TUN/22Z752/22 | cattle | 99.1 | 0 | O | EA-3 | | |
| viba_50094 | TUN/22Z750/22 | cattle | 99.1 | 0 | O | EA-3 | | |
| viba_50480 | TUN/1/2022 | cattle | 99.1 | 0 | O | EA-3 | | |
| viba_50114 | TUN/22Z756/22 | cattle | 99.1 | 0 | O | EA-3 | | |

Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.0 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.2 | 0 | O | EA-4 | | |
| viba_854 | ETH/1/2007 | cattle | 84.5 | 0 | O | EA-3 | | |
| viba_104 | GHA/5/93 | bovine | 84.5 | 0 | O | WA | | |
| viba_30238 | MUR/19/2016 | cattle | 83.9 | 0 | O | ME-SA | Ind-2001 | e |
| viba_285 | UKG/35/2001 | porcine | 83.5 | 0 | O | ME-SA | PanAsia | |
| viba_408 | ETH/3/2004 | cattle | 83.4 | 0 | O | EA-3 | | |
| viba_68 | TAI/189/87 | bovine | 83.2 | 0 | O | SEA | | |
| viba_199 | MYA/7/98 | bovine | 83.2 | 0 | O | SEA | Mya-98 | |
| viba_766 | IRN/31/2009 | cattle | 83.0 | 0 | O | ME-SA | PanAsia-2 | FAR-09 |

| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/08 |
| Sender reference: | AVL/FMD/21/08 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51161, genome 51162, sequence viba_51163, sequencing info 51164 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------------|--------|-------|----------|----------|----------|---------|------------|
| viba_51179 | GHA/AVL/FMD/21/23 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51175 | GHA/AVL/FMD/21/22 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51155 | GHA/AVL/FMD/21/03 | cattle | 99.7 | 0 | O | EA-3 | | |
| viba_51159 | GHA/AVL/FMD/21/06 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_51167 | GHA/AVL/FMD/21/11 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50178 | NIG/12/2021 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50102 | TUN/22Z752/22 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50094 | TUN/22Z750/22 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50480 | TUN/1/2022 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50114 | TUN/22Z756/22 | cattle | 99.2 | 0 | O | EA-3 | | |

Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.2 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.3 | 0 | O | EA-4 | | |
| viba_854 | ETH/1/2007 | cattle | 85.0 | 0 | O | EA-3 | | |
| viba_104 | GHA/5/93 | bovine | 84.2 | 0 | O | WA | | |
| viba_408 | ETH/3/2004 | cattle | 83.8 | 0 | O | EA-3 | | |
| viba_293 | BHU/3/2009 | cattle | 83.8 | 0 | O | ME-SA | Ind-2001 | d |
| viba_30238 | MUR/19/2016 | cattle | 83.7 | 0 | O | ME-SA | Ind-2001 | e |
| viba_285 | UKG/35/2001 | porcine | 83.4 | 0 | O | ME-SA | PanAsia | |
| viba_68 | TAI/189/87 | bovine | 83.4 | 0 | O | SEA | | |
| viba_62 | ETH/2/2006 | bovine | 83.2 | 0 | O | EA-3 | | |

| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/11 |
| Sender reference: | AVL/FMD/21/11 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51165, genome 51166, sequence viba_51167, sequencing info 51168 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------------|--------|-------|----------|----------|----------|---------|------------|
| viba_51179 | GHA/AVL/FMD/21/23 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_51175 | GHA/AVL/FMD/21/22 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_51155 | GHA/AVL/FMD/21/03 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_51163 | GHA/AVL/FMD/21/08 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50178 | NIG/12/2021 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_49558 | NIG/7/2021 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50206 | NIG/21/2021 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50202 | NIG/20/2021 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_51159 | GHA/AVL/FMD/21/06 | cattle | 99.2 | 0 | O | EA-3 | | |
| viba_50198 | NIG/19/2021 | cattle | 99.2 | 0 | O | EA-3 | | |

Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.3 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.3 | 0 | O | EA-4 | | |
| viba_854 | ETH/1/2007 | cattle | 84.9 | 0 | O | EA-3 | | |
| viba_104 | GHA/5/93 | bovine | 84.7 | 0 | O | WA | | |
| viba_30238 | MUR/19/2016 | cattle | 83.8 | 0 | O | ME-SA | Ind-2001 | e |
| viba_408 | ETH/3/2004 | cattle | 83.7 | 0 | O | EA-3 | | |
| viba_68 | TAI/189/87 | bovine | 83.5 | 0 | O | SEA | | |
| viba_285 | UKG/35/2001 | porcine | 83.3 | 0 | O | ME-SA | PanAsia | |
| viba_199 | MYA/7/98 | bovine | 83.3 | 0 | O | SEA | Mya-98 | |
| viba_62 | ETH/2/2006 | bovine | 83.2 | 0 | O | EA-3 | | |

| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/12 |
| Sender reference: | AVL/FMD/21/12 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51169, genome 51170, sequence viba_51171, sequencing info 51172 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|---------------|--------|-------|----------|----------|----------|---------|------------|
| viba_50102 | TUN/22Z752/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50094 | TUN/22Z750/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50480 | TUN/1/2022 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50114 | TUN/22Z756/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50118 | TUN/22Z994/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50082 | TUN/22Z746/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50484 | TUN/2/2022 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50086 | TUN/22Z747/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50078 | TUN/22Z745/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50126 | TUN/22Z996/22 | cattle | 99.4 | 0 | O | EA-3 | | |

Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.0 | 0 | O | EA-3 | | |
| viba_854 | ETH/1/2007 | cattle | 85.2 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.0 | 0 | O | EA-4 | | |
| viba_104 | GHA/5/93 | bovine | 84.4 | 0 | O | WA | | |
| viba_408 | ETH/3/2004 | cattle | 84.1 | 0 | O | EA-3 | | |
| viba_30238 | MUR/19/2016 | cattle | 83.8 | 0 | O | ME-SA | Ind-2001 | e |
| viba_85 | UGA/3/2002 | | 83.4 | 0 | O | EA-2 | | |
| viba_523 | K83/79 | | 83.3 | 0 | O | EA-1 | | |
| viba_621 | ETH/58/2005 | bovine | 83.3 | 0 | O | EA-4 | | |
| viba_285 | UKG/35/2001 | porcine | 83.2 | 0 | O | ME-SA | PanAsia | |

| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/22 |
| Sender reference: | AVL/FMD/21/22 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51173, genome 51174, sequence viba_51175, sequencing info 51176 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------------|--------|-------|----------|----------|----------|---------|------------|
| viba_51179 | GHA/AVL/FMD/21/23 | cattle | 100.0 | 0 | O | EA-3 | | |
| viba_51155 | GHA/AVL/FMD/21/03 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51163 | GHA/AVL/FMD/21/08 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51159 | GHA/AVL/FMD/21/06 | cattle | 99.7 | 0 | O | EA-3 | | |
| viba_51167 | GHA/AVL/FMD/21/11 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_50178 | NIG/12/2021 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_50102 | TUN/22Z752/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50094 | TUN/22Z750/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50480 | TUN/1/2022 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50114 | TUN/22Z756/22 | cattle | 99.4 | 0 | O | EA-3 | | |

Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.3 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.3 | 0 | O | EA-4 | | |
| viba_854 | ETH/1/2007 | cattle | 84.9 | 0 | O | EA-3 | | |
| viba_104 | GHA/5/93 | bovine | 84.5 | 0 | O | WA | | |
| viba_30238 | MUR/19/2016 | cattle | 83.8 | 0 | O | ME-SA | Ind-2001 | e |
| viba_408 | ETH/3/2004 | cattle | 83.7 | 0 | O | EA-3 | | |
| viba_68 | TAI/189/87 | bovine | 83.5 | 0 | O | SEA | | |
| viba_285 | UKG/35/2001 | porcine | 83.3 | 0 | O | ME-SA | PanAsia | |
| viba_199 | MYA/7/98 | bovine | 83.3 | 0 | O | SEA | Mya-98 | |
| viba_85 | UGA/3/2002 | | 83.1 | 0 | O | EA-2 | | |

| | |
|---|------------------------|
| Virus sample name: | GHA/AVL/FMD/21/23 |
| Sender reference: | AVL/FMD/21/23 |
| Location of origin: | Market, Central region |
| Country of origin: | Ghana |
| Date of collection: | 2021 |
| Host species: | cattle |
| Serotype: | O |
| Topotype: | EA-3 |
| Lineage: | |
| Sublineage: | |
| Sequence length: | 633 |
| Ambiguities: | 0 |
| Material submitted for sequencing: | n/a |
| Harvest date of material: | n/a |
| Primers: | n/a |
| Received for sequencing: | n/a |
| Created: | 01/08/2022 |
| Last updated: | 01/08/2022 |
| VIBASys IDs: sample 51177, genome 51178, sequence viba_51179, sequencing info 51180 | |

Most Closely Related Sequences

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------------|--------|-------|----------|----------|----------|---------|------------|
| viba_51175 | GHA/AVL/FMD/21/22 | cattle | 100.0 | 0 | O | EA-3 | | |
| viba_51155 | GHA/AVL/FMD/21/03 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51163 | GHA/AVL/FMD/21/08 | cattle | 99.8 | 0 | O | EA-3 | | |
| viba_51159 | GHA/AVL/FMD/21/06 | cattle | 99.7 | 0 | O | EA-3 | | |
| viba_51167 | GHA/AVL/FMD/21/11 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_50178 | NIG/12/2021 | cattle | 99.5 | 0 | O | EA-3 | | |
| viba_50102 | TUN/22Z752/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50094 | TUN/22Z750/22 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50480 | TUN/1/2022 | cattle | 99.4 | 0 | O | EA-3 | | |
| viba_50114 | TUN/22Z756/22 | cattle | 99.4 | 0 | O | EA-3 | | |

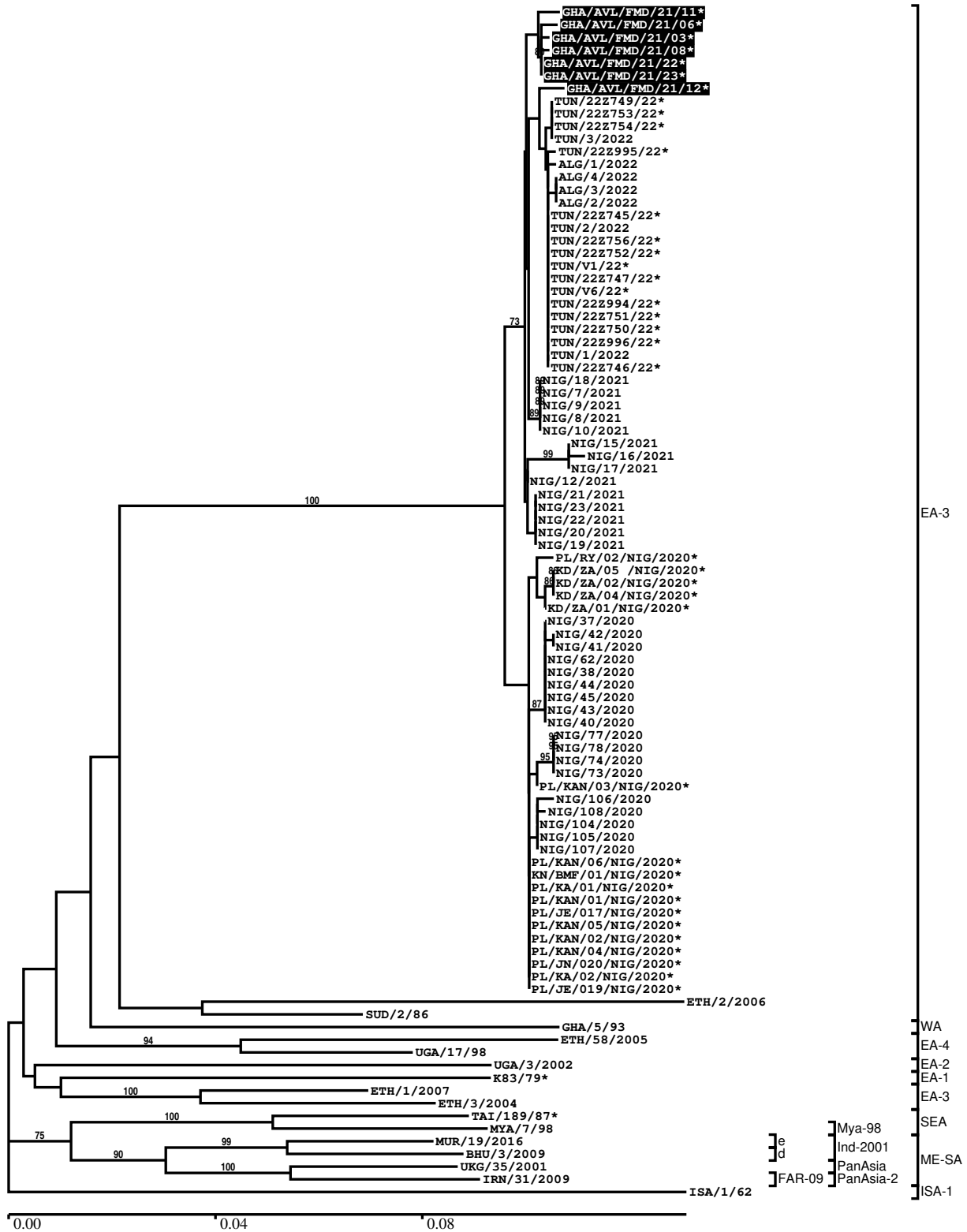
Most Closely Related Prototype Sequences

see <http://www.wrlfmd.org/fmdv-genome/fmd-prototype-strains>

| sequence | virus name | Host | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------|-------|----------|----------|----------|----------|------------|
| viba_116 | SUD/2/86 | bovine | 88.3 | 0 | O | EA-3 | | |
| viba_50 | UGA/17/98 | | 85.3 | 0 | O | EA-4 | | |
| viba_854 | ETH/1/2007 | cattle | 84.9 | 0 | O | EA-3 | | |
| viba_104 | GHA/5/93 | bovine | 84.5 | 0 | O | WA | | |
| viba_30238 | MUR/19/2016 | cattle | 83.8 | 0 | O | ME-SA | Ind-2001 | e |
| viba_408 | ETH/3/2004 | cattle | 83.7 | 0 | O | EA-3 | | |
| viba_68 | TAI/189/87 | bovine | 83.5 | 0 | O | SEA | | |
| viba_285 | UKG/35/2001 | porcine | 83.3 | 0 | O | ME-SA | PanAsia | |
| viba_199 | MYA/7/98 | bovine | 83.3 | 0 | O | SEA | Mya-98 | |
| viba_85 | UGA/3/2002 | | 83.1 | 0 | O | EA-2 | | |

Report on FMDV O in Ghana in 2021

Batch: WRLMEG/2022/00024



*, not a WRLFMD Reference Number

Analysis Parameters

| | |
|--|---|
| VP1 subsequence extractor: | vp1_O |
| Query sequence set: | WRLMEG/2022/00024-Ghana-O (7 sequences) |
| Sequence database set: | allseqs_O (5690 sequences) |
| Prototype sequence set: | !prototypes_O (49 sequences) |
| Number of related sequences reported: | 10 |
| Minimal VP1 subsequence match length | 600 |
| Sequence alignment method: | muscle (default parameters) |
| Sequence alignment length: | 636 |
| 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: | 15 |
| VIBASys version: | reflabs-1.1.2 |

Sequences in the Phylogenetic Tree

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

| label | accession | host(s) | lab | country | taxonomic information |
|--------------------|-----------|---------|------------|---------|-----------------------|
| GHA/AVL/FMD/21/11* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| GHA/AVL/FMD/21/06* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| GHA/AVL/FMD/21/03* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| GHA/AVL/FMD/21/08* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| GHA/AVL/FMD/21/22* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| GHA/AVL/FMD/21/23* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| GHA/AVL/FMD/21/12* | n/a | cattle | NCFAD/CFIA | Ghana | EA-3 |
| TUN/22Z749/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z753/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z754/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/3/2022 | n/a | cattle | WRLFMD | Tunisia | EA-3 |
| TUN/22Z995/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| ALG/1/2022 | n/a | cattle | WRLFMD | Algeria | EA-3 |
| ALG/4/2022 | n/a | cattle | WRLFMD | Algeria | EA-3 |
| ALG/3/2022 | n/a | cattle | WRLFMD | Algeria | EA-3 |
| ALG/2/2022 | n/a | cattle | WRLFMD | Algeria | EA-3 |
| TUN/22Z745/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/2/2022 | n/a | cattle | WRLFMD | Tunisia | EA-3 |
| TUN/22Z756/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z752/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/V1/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z747/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/V6/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z994/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z751/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z750/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/22Z996/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| TUN/1/2022 | n/a | cattle | WRLFMD | Tunisia | EA-3 |
| TUN/22Z746/22* | n/a | cattle | ANSES | Tunisia | EA-3 |
| NIG/18/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/7/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/9/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/8/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/10/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/15/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/16/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |

continued on next page

| label | accession | host(s) | lab | country | taxonomic information |
|---------------------|-----------|---------|------------|----------------|------------------------|
| NIG/17/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/12/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/21/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/23/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/22/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/20/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/19/2021 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| PL/RV/02/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| KD/ZA/05 /NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| KD/ZA/02/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| KD/ZA/04/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| KD/ZA/01/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| NIG/37/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/42/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/41/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/62/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/38/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/44/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/45/2020 | n/a | sheep | WRLFMD | Nigeria | EA-3 |
| NIG/43/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/40/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/77/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/78/2020 | n/a | sheep | WRLFMD | Nigeria | EA-3 |
| NIG/74/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/73/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| PL/KAN/03/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| NIG/106/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/108/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/104/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/105/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| NIG/107/2020 | n/a | cattle | WRLFMD | Nigeria | EA-3 |
| PL/KAN/06/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| KN/BMF/01/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/KA/01/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/KAN/01/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/JE/017/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/KAN/05/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/KAN/02/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/KAN/04/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/JN/020/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/KA/02/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| PL/JE/019/NIG/2020* | n/a | cattle | NCFAD/NVRI | Nigeria | EA-3 |
| ETH/2/2006 | FJ798127 | bovine | WRLFMD | Ethiopia | EA-3 |
| SUD/2/86 | DQ165075 | bovine | WRLFMD | Sudan | EA-3 |
| GHA/5/93 | AJ303488 | bovine | WRLFMD | Ghana | WA |
| ETH/58/2005 | FJ798141 | bovine | WRLFMD | Ethiopia | EA-4 |
| UGA/17/98 | HM211075 | n/a | WRLFMD | Uganda | EA-4 |
| UGA/3/2002 | DQ165077 | n/a | WRLFMD | Uganda | EA-2 |
| K83/79* | AJ303511 | n/a | WRLFMD | Kenya | EA-1 |
| ETH/1/2007 | FJ798137 | cattle | WRLFMD | Ethiopia | EA-3 |
| ETH/3/2004 | FJ798109 | cattle | WRLFMD | Ethiopia | EA-3 |
| TAI/189/87* | KY091288 | bovine | TRRL | Thailand | SEA |
| MYA/7/98 | DQ164925 | bovine | WRLFMD | Myanmar | SEA/Mya-98 |
| MUR/19/2016 | MG972510 | cattle | WRLFMD | Mauritius | ME-SA/Ind-2001/e |
| BHU/3/2009 | KM921814 | cattle | WRLFMD | Bhutan | ME-SA/Ind-2001/d |
| UKG/35/2001 | AJ539141 | porcine | PIADC | United Kingdom | ME-SA/PanAsia |
| IRN/31/2009 | KY091284 | cattle | WRLFMD | Iran | ME-SA/PanAsia-2/FAR-09 |
| ISA/1/62 | AJ303500 | n/a | WRLFMD | Indonesia | ISA-1 |

*, not a WRLFMD Reference Number

n/a, not available