

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

## Genotyping Report

FMDV serotype: O  
Country: Malaysia  
Year: 2014, 2015, 2016  
Batch: WRLFMD/2016/00028  
No. of sequences: 12  
Report date: 6th October 2016  
Report generated by: Kasia Bankowska  
Report checked by: Nick Knowles



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email: [reporting@pirbright.ac.uk](mailto:reporting@pirbright.ac.uk)

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|                                    |                                         |
|------------------------------------|-----------------------------------------|
| Virus sample name:                 | MAY/10/2014                             |
| Sender reference:                  | MVKKB 4067/14                           |
| Location of origin:                | Kg Tok Dosah, Bachok, Perupok, Kelantan |
| Country of origin:                 | Malaysia                                |
| Date of collection:                | 01/07/2014                              |
| Host species:                      | cattle                                  |
| Serotype:                          | O                                       |
| Topotype:                          | SEA                                     |
| Lineage:                           | Mya-98                                  |
| Sublineage:                        |                                         |
| Sequence length:                   | 633                                     |
| Ambiguities:                       | 0                                       |
| Material submitted for sequencing: | BTy1                                    |
| Harvest date of material:          | 09/09/2016                              |
| Primers:                           | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R  |
| Received for sequencing:           | 29/09/2016                              |
| Created:                           | 04/10/2016                              |
| Last updated:                      | 04/10/2016                              |

VIBASys IDs: sample 30119, genome 30120, sequence viba\_30121, sequencing info 30122

#### Most Closely Related Sequences

| sequence   | virus name  | Host   | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|--------|-------|----------|----------|----------|---------|------------|
| viba_22941 | MAY/9/2014  | cattle | 100.0 | 0        | O        | SEA      | Mya-98  |            |
| viba_23280 | TAI/11/2014 | cattle | 99.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_23292 | TAI/20/2014 | cattle | 99.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_23288 | TAI/19/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23444 | VIT/27/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_22929 | MAY/2/2014  | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 92.3  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 89.4  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 87.7  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine  | 87.2  | 0        | O        | SEA      | Cam-94    |            |
| viba_359 | Manisa/TUR/69 |         | 87.1  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |         | 86.8  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_397 | UAE/4/2008    | gazelle | 86.3  | 0        | O        | ME-SA    | Ind-2001  | c          |
| viba_719 | IRN/88/2009   |         | 86.1  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |
| viba_491 | TUR/257/2008  |         | 86.1  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_705 | KUW/3/97      | bovine  | 86.0  | 0        | O        | ME-SA    | Ind-2001  | a          |

|                                    |                                                |
|------------------------------------|------------------------------------------------|
| Virus sample name:                 | MAY/14/2014                                    |
| Sender reference:                  | MVKKKB 4732/14                                 |
| Location of origin:                | Kg Gong Nering, Besut, Bukit Kenak, Terengganu |
| Country of origin:                 | Malaysia                                       |
| Date of collection:                | 25/08/2014                                     |
| Host species:                      | cattle                                         |
| Serotype:                          | O                                              |
| Topotype:                          | SEA                                            |
| Lineage:                           | Mya-98                                         |
| Sublineage:                        |                                                |
| Sequence length:                   | 633                                            |
| Ambiguities:                       | 0                                              |
| Material submitted for sequencing: | BTy1                                           |
| Harvest date of material:          | 09/09/2016                                     |
| Primers:                           | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R         |
| Received for sequencing:           | 29/09/2016                                     |
| Created:                           | 04/10/2016                                     |
| Last updated:                      | 04/10/2016                                     |

VIBASys IDs: sample 30123, genome 30124, sequence viba\_30125, sequencing info 30126

#### Most Closely Related Sequences

| sequence   | virus name  | Host   | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|--------|-------|----------|----------|----------|---------|------------|
| viba_23288 | TAI/19/2014 | cattle | 99.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_23280 | TAI/11/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_22941 | MAY/9/2014  | cattle | 98.9  | 0        | O        | SEA      | Mya-98  |            |
| viba_23292 | TAI/20/2014 | cattle | 98.7  | 0        | O        | SEA      | Mya-98  |            |
| viba_23444 | VIT/27/2014 | cattle | 98.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle | 98.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle | 98.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle | 98.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle | 98.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_22929 | MAY/2/2014  | cattle | 98.6  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 91.5  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 88.3  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 86.9  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine  | 86.4  | 0        | O        | SEA      | Cam-94    |            |
| viba_359 | Manisa/TUR/69 |         | 86.3  | 0        | O        | ME-SA    |           |            |
| viba_397 | UAE/4/2008    | gazelle | 86.1  | 0        | O        | ME-SA    | Ind-2001  | c          |
| viba_505 | TUR/264/2009  |         | 86.0  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_541 | OMN/7/2001    | bovine  | 85.8  | 0        | O        | ME-SA    | Ind-2001  | b          |
| viba_705 | KUW/3/97      | bovine  | 85.5  | 0        | O        | ME-SA    | Ind-2001  | a          |
| viba_766 | IRN/31/2009   | cattle  | 85.5  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |

|                                                                                     |                                                         |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|
| Virus sample name:                                                                  | MAY/17/2014                                             |
| Sender reference:                                                                   | MVKKB 5203/14                                           |
| Location of origin:                                                                 | Ldg Sg Siput Estate, Kuala Kangsar, Sungai Siput, Perak |
| Country of origin:                                                                  | Malaysia                                                |
| Date of collection:                                                                 | 22/09/2014                                              |
| Host species:                                                                       | cattle                                                  |
| Serotype:                                                                           | O                                                       |
| Topotype:                                                                           | SEA                                                     |
| Lineage:                                                                            | Mya-98                                                  |
| Sublineage:                                                                         |                                                         |
| Sequence length:                                                                    | 633                                                     |
| Ambiguities:                                                                        | 0                                                       |
| Material submitted for sequencing:                                                  | BTy1                                                    |
| Harvest date of material:                                                           | 15/09/2016                                              |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R                  |
| Received for sequencing:                                                            | 29/09/2016                                              |
| Created:                                                                            | 04/10/2016                                              |
| Last updated:                                                                       | 04/10/2016                                              |
| VIBASys IDs: sample 30127, genome 30128, sequence viba_30129, sequencing info 30130 |                                                         |

#### Most Closely Related Sequences

| sequence   | virus name  | Host   | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|--------|-------|----------|----------|----------|---------|------------|
| viba_23292 | TAI/20/2014 | cattle | 99.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_22941 | MAY/9/2014  | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23280 | TAI/11/2014 | cattle | 99.2  | 0        | O        | SEA      | Mya-98  |            |
| viba_23288 | TAI/19/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23444 | VIT/27/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_22929 | MAY/2/2014  | cattle | 99.1  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 91.9  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 88.8  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 87.0  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine  | 86.6  | 0        | O        | SEA      | Cam-94    |            |
| viba_359 | Manisa/TUR/69 |         | 86.5  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |         | 86.5  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_766 | IRN/31/2009   | cattle  | 86.0  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_719 | IRN/88/2009   |         | 85.8  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |
| viba_491 | TUR/257/2008  |         | 85.8  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_397 | UAE/4/2008    | gazelle | 85.6  | 0        | O        | ME-SA    | Ind-2001  | c          |

|                                    |                                                                   |
|------------------------------------|-------------------------------------------------------------------|
| Virus sample name:                 | MAY/18/2014                                                       |
| Sender reference:                  | MVKKB 6106/14                                                     |
| Location of origin:                | A/L Notial Gownden, Jalan Sri Daya, Kulai Jaya, Bukit Batu, Johor |
| Country of origin:                 | Malaysia                                                          |
| Date of collection:                | 12/11/2014                                                        |
| Host species:                      | cattle                                                            |
| Serotype:                          | O                                                                 |
| Topotype:                          | SEA                                                               |
| Lineage:                           | Mya-98                                                            |
| Sublineage:                        |                                                                   |
| Sequence length:                   | 633                                                               |
| Ambiguities:                       | 0                                                                 |
| Material submitted for sequencing: | BTy1                                                              |
| Harvest date of material:          | 15/09/2016                                                        |
| Primers:                           | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R                            |
| Received for sequencing:           | 29/09/2016                                                        |
| Created:                           | 04/10/2016                                                        |
| Last updated:                      | 04/10/2016                                                        |

VIBASys IDs: sample 30131, genome 30132, sequence viba\_30133, sequencing info 30134

#### Most Closely Related Sequences

| sequence   | virus name  | Host   | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|--------|-------|----------|----------|----------|---------|------------|
| viba_23292 | TAI/20/2014 | cattle | 99.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_23444 | VIT/27/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_22941 | MAY/9/2014  | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_22929 | MAY/2/2014  | cattle | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23280 | TAI/11/2014 | cattle | 99.2  | 0        | O        | SEA      | Mya-98  |            |
| viba_26256 | TAI/9/2015  | cattle | 99.2  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 92.3  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 89.1  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 87.4  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine  | 86.9  | 0        | O        | SEA      | Cam-94    |            |
| viba_359 | Manisa/TUR/69 |         | 86.8  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |         | 86.1  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_719 | IRN/88/2009   |         | 86.1  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |
| viba_766 | IRN/31/2009   | cattle  | 86.0  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_491 | TUR/257/2008  |         | 85.8  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_285 | UKG/35/2001   | porcine | 85.6  | 0        | O        | ME-SA    | PanAsia   |            |

|                                    |                                                           |
|------------------------------------|-----------------------------------------------------------|
| Virus sample name:                 | MAY/1/2015                                                |
| Sender reference:                  | MVKKB 1680/15                                             |
| Location of origin:                | Kg Bukit Diman, Hulu Terengganu, Kuala Berang, Terengganu |
| Country of origin:                 | Malaysia                                                  |
| Date of collection:                | 26/03/2015                                                |
| Host species:                      | cattle                                                    |
| Serotype:                          | O                                                         |
| Topotype:                          | SEA                                                       |
| Lineage:                           | Mya-98                                                    |
| Sublineage:                        |                                                           |
| Sequence length:                   | 633                                                       |
| Ambiguities:                       | 0                                                         |
| Material submitted for sequencing: | BTy1                                                      |
| Harvest date of material:          | 15/09/2016                                                |
| Primers:                           | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R                    |
| Received for sequencing:           | 29/09/2016                                                |
| Created:                           | 04/10/2016                                                |
| Last updated:                      | 04/10/2016                                                |

VIBASys IDs: sample 30135, genome 30136, sequence viba\_30137, sequencing info 30138

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_15588 | MAY/10/2010 | porcine       | 96.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_15592 | MAY/11/2010 | porcine       | 96.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_9811  | MAY/9/2007  | cattle        | 95.7  | 0        | O        | SEA      | Mya-98  |            |
| viba_12983 | TAI/3/2009  | cattle        | 95.7  | 0        | O        | SEA      | Mya-98  |            |
| viba_10125 | TAI/9/2007  | cattle        | 95.7  | 0        | O        | SEA      | Mya-98  |            |
| viba_9807  | MAY/7/2007  | cattle        | 95.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_10117 | TAI/7/2007  | cattle        | 95.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_9795  | MAY/4/2007  | cattle        | 95.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_9779  | LAO/1/2007  | water buffalo | 95.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_10898 | MYA/2/2008  | cattle        | 95.4  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 90.7  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 88.2  | 0        | O        | SEA      |           |            |
| viba_359 | Manisa/TUR/69 |         | 85.9  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |         | 85.3  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_491 | TUR/257/2008  |         | 85.3  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_694 | CAM/3/98      | bovine  | 85.2  | 0        | O        | SEA      | Cam-94    |            |
| viba_766 | IRN/31/2009   | cattle  | 84.7  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_576 | IND/R2/75     |         | 84.4  | 0        | O        | ME-SA    |           |            |
| viba_285 | UKG/35/2001   | porcine | 84.4  | 0        | O        | ME-SA    | PanAsia   |            |
| viba_650 | IRN/8/2005    | ovine   | 84.2  | 0        | O        | ME-SA    | PanAsia-2 |            |

|                                                                                     |                                                                     |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Virus sample name:                                                                  | MAY/2/2015                                                          |
| Sender reference:                                                                   | MVKKB 2340/15                                                       |
| Location of origin:                                                                 | Kg Mampong, Tanjung Keling, Rembau, Tanjung Keling, Negeri Sembilan |
| Country of origin:                                                                  | Malaysia                                                            |
| Date of collection:                                                                 | 16/04/2015                                                          |
| Host species:                                                                       | cattle                                                              |
| Serotype:                                                                           | O                                                                   |
| Topotype:                                                                           | SEA                                                                 |
| Lineage:                                                                            | Mya-98                                                              |
| Sublineage:                                                                         |                                                                     |
| Sequence length:                                                                    | 633                                                                 |
| Ambiguities:                                                                        | 0                                                                   |
| Material submitted for sequencing:                                                  | BTy1                                                                |
| Harvest date of material:                                                           | 15/09/2016                                                          |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R                              |
| Received for sequencing:                                                            | 29/09/2016                                                          |
| Created:                                                                            | 04/10/2016                                                          |
| Last updated:                                                                       | 04/10/2016                                                          |
| VIBASys IDs: sample 30139, genome 30140, sequence viba_30141, sequencing info 30142 |                                                                     |

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_15588 | MAY/10/2010 | porcine       | 95.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_15592 | MAY/11/2010 | porcine       | 95.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_9811  | MAY/9/2007  | cattle        | 95.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_11016 | TAI/7/2008  | water buffalo | 94.9  | 0        | O        | SEA      | Mya-98  |            |
| viba_11000 | TAI/2/2008  | cattle        | 94.9  | 0        | O        | SEA      | Mya-98  |            |
| viba_11004 | TAI/3/2008  | cattle        | 94.9  | 0        | O        | SEA      | Mya-98  |            |
| viba_11008 | TAI/5/2008  | cattle        | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_9807  | MAY/7/2007  | cattle        | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_10117 | TAI/7/2007  | cattle        | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_9795  | MAY/4/2007  | cattle        | 94.8  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host   | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|--------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine | 91.2  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine | 89.1  | 0        | O        | SEA      |           |            |
| viba_694 | CAM/3/98      | bovine | 86.7  | 0        | O        | SEA      | Cam-94    |            |
| viba_359 | Manisa/TUR/69 |        | 86.0  | 0        | O        | ME-SA    |           |            |
| viba_576 | IND/R2/75     |        | 85.6  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |        | 85.0  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_766 | IRN/31/2009   | cattle | 85.0  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_491 | TUR/257/2008  |        | 85.0  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_650 | IRN/8/2005    | ovine  | 84.2  | 0        | O        | ME-SA    | PanAsia-2 |            |
| viba_719 | IRN/88/2009   |        | 84.1  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |

|                                                                                     |                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------|
| Virus sample name:                                                                  | MAY/4/2015                                       |
| Sender reference:                                                                   | MVKKB 4121/15                                    |
| Location of origin:                                                                 | Bt 17?, Kg Tg Balai, Alor Gajah, Melekek, Melaka |
| Country of origin:                                                                  | Malaysia                                         |
| Date of collection:                                                                 | 22/07/2015                                       |
| Host species:                                                                       | cattle                                           |
| Serotype:                                                                           | O                                                |
| Topotype:                                                                           | SEA                                              |
| Lineage:                                                                            | Mya-98                                           |
| Sublineage:                                                                         |                                                  |
| Sequence length:                                                                    | 633                                              |
| Ambiguities:                                                                        | 0                                                |
| Material submitted for sequencing:                                                  | BTy1                                             |
| Harvest date of material:                                                           | 15/09/2016                                       |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R           |
| Received for sequencing:                                                            | 29/09/2016                                       |
| Created:                                                                            | 04/10/2016                                       |
| Last updated:                                                                       | 04/10/2016                                       |
| VIBASys IDs: sample 30143, genome 30144, sequence viba_30145, sequencing info 30146 |                                                  |

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_15588 | MAY/10/2010 | porcine       | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_15592 | MAY/11/2010 | porcine       | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_9811  | MAY/9/2007  | cattle        | 94.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_11016 | TAI/7/2008  | water buffalo | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11000 | TAI/2/2008  | cattle        | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11004 | TAI/3/2008  | cattle        | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11008 | TAI/5/2008  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_10141 | TAI/14/2007 | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_9807  | MAY/7/2007  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_10117 | TAI/7/2007  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host   | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|--------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine | 90.7  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine | 89.3  | 0        | O        | SEA      |           |            |
| viba_359 | Manisa/TUR/69 |        | 86.5  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine | 86.4  | 0        | O        | SEA      | Cam-94    |            |
| viba_576 | IND/R2/75     |        | 86.3  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |        | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_766 | IRN/31/2009   | cattle | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_293 | BHU/3/2009    | cattle | 85.2  | 0        | O        | ME-SA    | Ind-2001  | d          |
| viba_491 | TUR/257/2008  |        | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_650 | IRN/8/2005    | ovine  | 84.5  | 0        | O        | ME-SA    | PanAsia-2 |            |



|                                                                                     |                                           |
|-------------------------------------------------------------------------------------|-------------------------------------------|
| Virus sample name:                                                                  | MAY/4/2016                                |
| Sender reference:                                                                   | MVKKB 1492/16                             |
| Location of origin:                                                                 | Kg Pondok Kempas, Jasin, Selandar, Melaka |
| Country of origin:                                                                  | Malaysia                                  |
| Date of collection:                                                                 | 14/03/2016                                |
| Host species:                                                                       | cattle                                    |
| Serotype:                                                                           | O                                         |
| Topotype:                                                                           | SEA                                       |
| Lineage:                                                                            | Mya-98                                    |
| Sublineage:                                                                         |                                           |
| Sequence length:                                                                    | 633                                       |
| Ambiguities:                                                                        | 0                                         |
| Material submitted for sequencing:                                                  | BTy1                                      |
| Harvest date of material:                                                           | 15/09/2016                                |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R    |
| Received for sequencing:                                                            | 29/09/2016                                |
| Created:                                                                            | 04/10/2016                                |
| Last updated:                                                                       | 04/10/2016                                |
| VIBASys IDs: sample 30147, genome 30148, sequence viba_30149, sequencing info 30150 |                                           |

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_15588 | MAY/10/2010 | porcine       | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_15592 | MAY/11/2010 | porcine       | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_9811  | MAY/9/2007  | cattle        | 94.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_11016 | TAI/7/2008  | water buffalo | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11000 | TAI/2/2008  | cattle        | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11004 | TAI/3/2008  | cattle        | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11008 | TAI/5/2008  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_10141 | TAI/14/2007 | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_9807  | MAY/7/2007  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_10117 | TAI/7/2007  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host   | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|--------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine | 90.7  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine | 89.3  | 0        | O        | SEA      |           |            |
| viba_359 | Manisa/TUR/69 |        | 86.5  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine | 86.4  | 0        | O        | SEA      | Cam-94    |            |
| viba_576 | IND/R2/75     |        | 86.3  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |        | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_766 | IRN/31/2009   | cattle | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_293 | BHU/3/2009    | cattle | 85.2  | 0        | O        | ME-SA    | Ind-2001  | d          |
| viba_491 | TUR/257/2008  |        | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_650 | IRN/8/2005    | ovine  | 84.5  | 0        | O        | ME-SA    | PanAsia-2 |            |

|                                                                                     |                                               |
|-------------------------------------------------------------------------------------|-----------------------------------------------|
| Virus sample name:                                                                  | MAY/5/2016                                    |
| Sender reference:                                                                   | MVKKB 1730/16                                 |
| Location of origin:                                                                 | Kg Hutan Percha, Alor Gajah, Kemuning, Melaka |
| Country of origin:                                                                  | Malaysia                                      |
| Date of collection:                                                                 | 14/03/2016                                    |
| Host species:                                                                       | cattle                                        |
| Serotype:                                                                           | O                                             |
| Topotype:                                                                           | SEA                                           |
| Lineage:                                                                            | Mya-98                                        |
| Sublineage:                                                                         |                                               |
| Sequence length:                                                                    | 633                                           |
| Ambiguities:                                                                        | 0                                             |
| Material submitted for sequencing:                                                  | BTy1                                          |
| Harvest date of material:                                                           | 15/09/2016                                    |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R        |
| Received for sequencing:                                                            | 29/09/2016                                    |
| Created:                                                                            | 04/10/2016                                    |
| Last updated:                                                                       | 04/10/2016                                    |
| VIBASys IDs: sample 30151, genome 30152, sequence viba_30153, sequencing info 30154 |                                               |

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_15588 | MAY/10/2010 | porcine       | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_15592 | MAY/11/2010 | porcine       | 94.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_9811  | MAY/9/2007  | cattle        | 94.6  | 0        | O        | SEA      | Mya-98  |            |
| viba_11016 | TAI/7/2008  | water buffalo | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11000 | TAI/2/2008  | cattle        | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11004 | TAI/3/2008  | cattle        | 94.5  | 0        | O        | SEA      | Mya-98  |            |
| viba_11008 | TAI/5/2008  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_10141 | TAI/14/2007 | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_9807  | MAY/7/2007  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_10117 | TAI/7/2007  | cattle        | 94.3  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host   | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|--------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine | 90.7  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine | 89.3  | 0        | O        | SEA      |           |            |
| viba_359 | Manisa/TUR/69 |        | 86.5  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine | 86.4  | 0        | O        | SEA      | Cam-94    |            |
| viba_576 | IND/R2/75     |        | 86.3  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |        | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_766 | IRN/31/2009   | cattle | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_293 | BHU/3/2009    | cattle | 85.2  | 0        | O        | ME-SA    | Ind-2001  | d          |
| viba_491 | TUR/257/2008  |        | 85.2  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_650 | IRN/8/2005    | ovine  | 84.5  | 0        | O        | ME-SA    | PanAsia-2 |            |

|                                    |                                                  |
|------------------------------------|--------------------------------------------------|
| Virus sample name:                 | MAY/7/2016                                       |
| Sender reference:                  | MVKKB 3034/16                                    |
| Location of origin:                | Kg Sg Samak, Hilir Perak, Hutan Melintang, Perak |
| Country of origin:                 | Malaysia                                         |
| Date of collection:                | 02/06/2016                                       |
| Host species:                      | cattle                                           |
| Serotype:                          | O                                                |
| Topotype:                          | SEA                                              |
| Lineage:                           | Mya-98                                           |
| Sublineage:                        |                                                  |
| Sequence length:                   | 633                                              |
| Ambiguities:                       | 0                                                |
| Material submitted for sequencing: | BTy1                                             |
| Harvest date of material:          | 17/09/2016                                       |
| Primers:                           | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R           |
| Received for sequencing:           | 29/09/2016                                       |
| Created:                           | 04/10/2016                                       |
| Last updated:                      | 04/10/2016                                       |

VIBASys IDs: sample 30155, genome 30156, sequence viba\_30157, sequencing info 30158

#### Most Closely Related Sequences

| sequence   | virus name  | Host   | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|--------|-------|----------|----------|----------|---------|------------|
| viba_23444 | VIT/27/2014 | cattle | 98.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle | 98.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle | 98.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle | 98.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle | 98.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_22929 | MAY/2/2014  | cattle | 98.3  | 0        | O        | SEA      | Mya-98  |            |
| viba_26256 | TAI/9/2015  | cattle | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23416 | VIT/13/2014 | cattle | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23284 | TAI/13/2014 | cattle | 97.9  | 0        | O        | SEA      | Mya-98  |            |
| viba_22941 | MAY/9/2014  | cattle | 97.9  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 91.8  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 89.0  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 87.5  | 0        | O        | ME-SA    |           |            |
| viba_359 | Manisa/TUR/69 |         | 87.2  | 0        | O        | ME-SA    |           |            |
| viba_505 | TUR/264/2009  |         | 86.9  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_766 | IRN/31/2009   | cattle  | 86.8  | 0        | O        | ME-SA    | PanAsia-2 | FAR-09     |
| viba_491 | TUR/257/2008  |         | 86.6  | 0        | O        | ME-SA    | PanAsia-2 | TER-08     |
| viba_694 | CAM/3/98      | bovine  | 86.1  | 0        | O        | SEA      | Cam-94    |            |
| viba_719 | IRN/88/2009   |         | 86.1  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |
| viba_397 | UAE/4/2008    | gazelle | 86.1  | 0        | O        | ME-SA    | Ind-2001  | c          |

|                                                                                     |                                                      |
|-------------------------------------------------------------------------------------|------------------------------------------------------|
| Virus sample name:                                                                  | MAY/9/2016                                           |
| Sender reference:                                                                   | MVKKB 3434/16                                        |
| Location of origin:                                                                 | Kg Paya Mengkuang, Alor Gajah, Sg Baru Hilir, Melaka |
| Country of origin:                                                                  | Malaysia                                             |
| Date of collection:                                                                 | 27/06/2016                                           |
| Host species:                                                                       | cattle                                               |
| Serotype:                                                                           | O                                                    |
| Topotype:                                                                           | SEA                                                  |
| Lineage:                                                                            | Mya-98                                               |
| Sublineage:                                                                         |                                                      |
| Sequence length:                                                                    | 633                                                  |
| Ambiguities:                                                                        | 0                                                    |
| Material submitted for sequencing:                                                  | BTy1                                                 |
| Harvest date of material:                                                           | 17/09/2016                                           |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R               |
| Received for sequencing:                                                            | 29/09/2016                                           |
| Created:                                                                            | 04/10/2016                                           |
| Last updated:                                                                       | 04/10/2016                                           |
| VIBASys IDs: sample 30159, genome 30160, sequence viba_30161, sequencing info 30162 |                                                      |

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_26304 | TAI/28/2015 | cattle        | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23841 | TAI/4/2016  | cattle        | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23803 | LAO/2/2016  | water buffalo | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23837 | TAI/2/2016  | cattle        | 98.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23444 | VIT/27/2014 | cattle        | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle        | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle        | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle        | 97.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle        | 97.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_26256 | TAI/9/2015  | cattle        | 97.8  | 0        | O        | SEA      | Mya-98  |            |

#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 91.9  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 88.6  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 86.9  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine  | 86.4  | 0        | O        | SEA      | Cam-94    |            |
| viba_719 | IRN/88/2009   |         | 85.8  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |
| viba_397 | UAE/4/2008    | gazelle | 85.8  | 0        | O        | ME-SA    | Ind-2001  | c          |
| viba_505 | TUR/264/2009  |         | 85.7  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_617 | IND/53/79     | bovine  | 85.7  | 0        | O        | ME-SA    |           |            |
| viba_705 | KUW/3/97      | bovine  | 85.6  | 0        | O        | ME-SA    | Ind-2001  | a          |
| viba_359 | Manisa/TUR/69 |         | 85.5  | 0        | O        | ME-SA    |           |            |

|                                                                                     |                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|
| Virus sample name:                                                                  | MAY/10/2016                                         |
| Sender reference:                                                                   | MVKKB 3977/16                                       |
| Location of origin:                                                                 | Ayer Molek Darat, Melaka Tengah, Ayer Molek, Melaka |
| Country of origin:                                                                  | Malaysia                                            |
| Date of collection:                                                                 | 08/08/2016                                          |
| Host species:                                                                       | cattle                                              |
| Serotype:                                                                           | O                                                   |
| Topotype:                                                                           | SEA                                                 |
| Lineage:                                                                            | Mya-98                                              |
| Sublineage:                                                                         |                                                     |
| Sequence length:                                                                    | 633                                                 |
| Ambiguities:                                                                        | 0                                                   |
| Material submitted for sequencing:                                                  | BTy1                                                |
| Harvest date of material:                                                           | 17/09/2016                                          |
| Primers:                                                                            | O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R              |
| Received for sequencing:                                                            | 29/09/2016                                          |
| Created:                                                                            | 04/10/2016                                          |
| Last updated:                                                                       | 04/10/2016                                          |
| VIBASys IDs: sample 30163, genome 30164, sequence viba_30165, sequencing info 30166 |                                                     |

#### Most Closely Related Sequences

| sequence   | virus name  | Host          | % Id. | # Ambig. | serotype | topotype | lineage | sublineage |
|------------|-------------|---------------|-------|----------|----------|----------|---------|------------|
| viba_26304 | TAI/28/2015 | cattle        | 99.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23841 | TAI/4/2016  | cattle        | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23803 | LAO/2/2016  | water buffalo | 99.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23837 | TAI/2/2016  | cattle        | 98.4  | 0        | O        | SEA      | Mya-98  |            |
| viba_23444 | VIT/27/2014 | cattle        | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23440 | VIT/26/2014 | cattle        | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23428 | VIT/21/2014 | cattle        | 98.1  | 0        | O        | SEA      | Mya-98  |            |
| viba_23276 | TAI/10/2014 | cattle        | 97.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_23424 | VIT/18/2014 | cattle        | 97.8  | 0        | O        | SEA      | Mya-98  |            |
| viba_26256 | TAI/9/2015  | cattle        | 97.8  | 0        | O        | SEA      | Mya-98  |            |

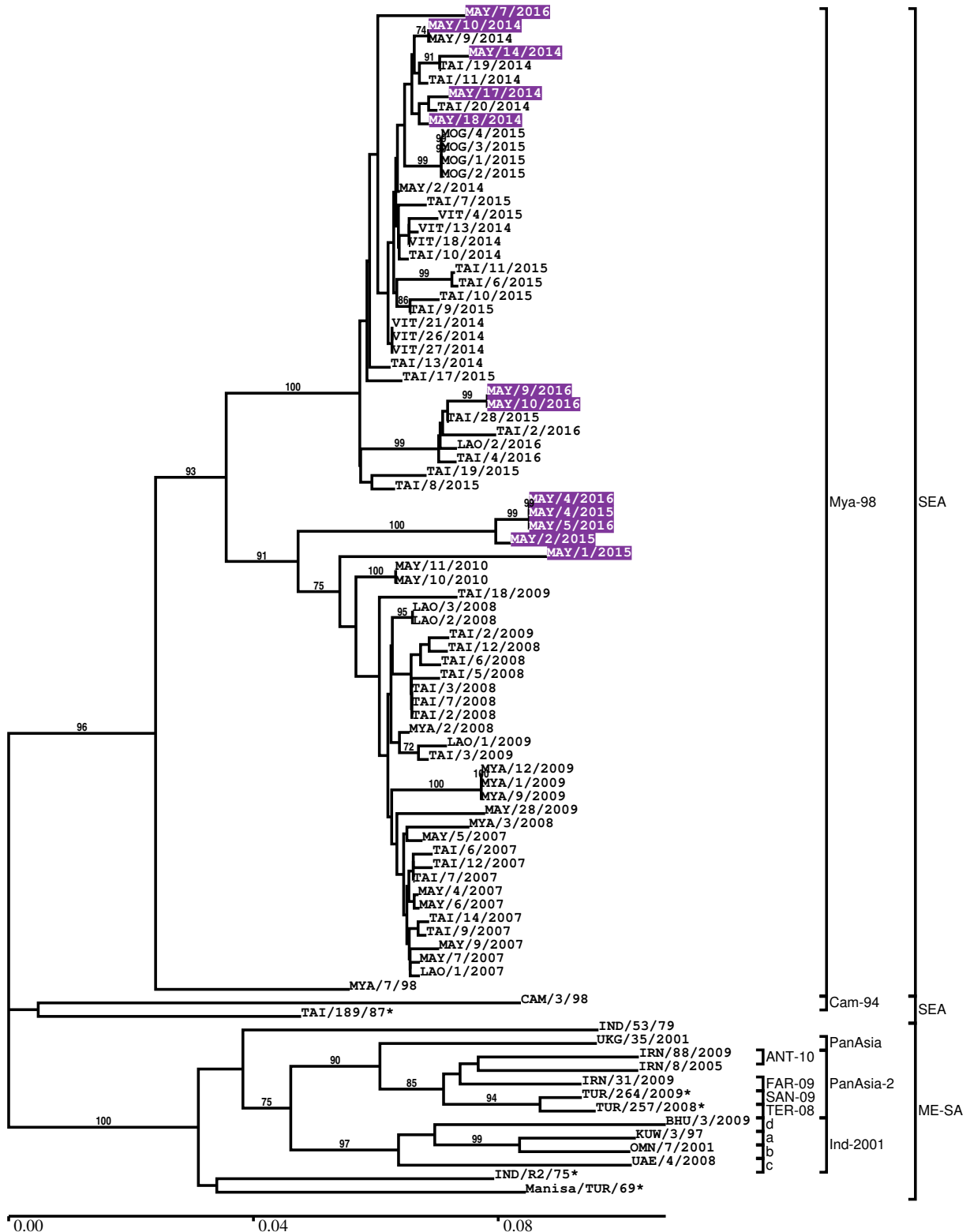
#### Most Closely Related Prototype Sequences

see [http://www.wrlfmd.org/fmd\\_genotyping/prototypes.htm](http://www.wrlfmd.org/fmd_genotyping/prototypes.htm)

| sequence | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|----------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_199 | MYA/7/98      | bovine  | 91.9  | 0        | O        | SEA      | Mya-98    |            |
| viba_68  | TAI/189/87    | bovine  | 88.6  | 0        | O        | SEA      |           |            |
| viba_576 | IND/R2/75     |         | 86.9  | 0        | O        | ME-SA    |           |            |
| viba_694 | CAM/3/98      | bovine  | 86.4  | 0        | O        | SEA      | Cam-94    |            |
| viba_719 | IRN/88/2009   |         | 85.8  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |
| viba_397 | UAE/4/2008    | gazelle | 85.8  | 0        | O        | ME-SA    | Ind-2001  | c          |
| viba_505 | TUR/264/2009  |         | 85.7  | 0        | O        | ME-SA    | PanAsia-2 | SAN-09     |
| viba_617 | IND/53/79     | bovine  | 85.7  | 0        | O        | ME-SA    |           |            |
| viba_705 | KUW/3/97      | bovine  | 85.6  | 0        | O        | ME-SA    | Ind-2001  | a          |
| viba_359 | Manisa/TUR/69 |         | 85.5  | 0        | O        | ME-SA    |           |            |

Report on FMDV O in Malaysia in 2014, 2015, 2016

Batch: WRLFMD/2016/00028



\*, not a WRLFMD Reference Number

## Analysis Parameters

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| VP1 subsequence extractor:             | vp1_O                                       |
| Query sequence set:                    | WRLFMD/2016/00028-Malaysia-O (12 sequences) |
| Sequence database set:                 | allseqs_O (3092 sequences)                  |
| Prototype sequence set:                | !prototypes_O (47 sequences)                |
| Number of related sequences reported:  | 10                                          |
| Minimal VP1 subsequence match length   | 600                                         |
| Sequence alignment method:             | muscle (default parameters)                 |
| Sequence alignment length:             | 633                                         |
| 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: | 16                                          |
| VIBASys version:                       | reflabs-1.1.0                               |

## Sequences in the Phylogenetic Tree

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

| label       | accession | host(s)       | lab    | country  | taxonomic information |
|-------------|-----------|---------------|--------|----------|-----------------------|
| MAY/7/2016  | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| MAY/10/2014 | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| MAY/9/2014  | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| MAY/14/2014 | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| TAI/19/2014 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/11/2014 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| MAY/17/2014 | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| TAI/20/2014 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| MAY/18/2014 | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| MOG/4/2015  | n/a       | cattle        | WRLFMD | Mongolia | SEA/Mya-98            |
| MOG/3/2015  | n/a       | cattle        | WRLFMD | Mongolia | SEA/Mya-98            |
| MOG/1/2015  | n/a       | cattle        | WRLFMD | Mongolia | SEA/Mya-98            |
| MOG/2/2015  | n/a       | cattle        | WRLFMD | Mongolia | SEA/Mya-98            |
| MAY/2/2014  | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| TAI/7/2015  | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| VIT/4/2015  | n/a       | cattle        | WRLFMD | Vietnam  | SEA/Mya-98            |
| VIT/13/2014 | n/a       | cattle        | WRLFMD | Vietnam  | SEA/Mya-98            |
| VIT/18/2014 | n/a       | cattle        | WRLFMD | Vietnam  | SEA/Mya-98            |
| TAI/10/2014 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/11/2015 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/6/2015  | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/10/2015 | n/a       | porcine       | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/9/2015  | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| VIT/21/2014 | n/a       | cattle        | WRLFMD | Vietnam  | SEA/Mya-98            |
| VIT/26/2014 | n/a       | cattle        | WRLFMD | Vietnam  | SEA/Mya-98            |
| VIT/27/2014 | n/a       | cattle        | WRLFMD | Vietnam  | SEA/Mya-98            |
| TAI/13/2014 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/17/2015 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| MAY/9/2016  | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| MAY/10/2016 | n/a       | cattle        | WRLFMD | Malaysia | SEA/Mya-98            |
| TAI/28/2015 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/2/2016  | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| LAO/2/2016  | n/a       | water buffalo | WRLFMD | Laos     | SEA/Mya-98            |
| TAI/4/2016  | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/19/2015 | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |
| TAI/8/2015  | n/a       | cattle        | WRLFMD | Thailand | SEA/Mya-98            |

*continued on next page*

| label          | accession | host(s)       | lab         | country              | taxonomic information  |
|----------------|-----------|---------------|-------------|----------------------|------------------------|
| MAY/4/2016     | n/a       | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/4/2015     | n/a       | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/5/2016     | n/a       | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/2/2015     | n/a       | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/1/2015     | n/a       | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/11/2010    | n/a       | porcine       | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/10/2010    | n/a       | porcine       | WRLFMD      | Malaysia             | SEA/Mya-98             |
| TAI/18/2009    | HQ116265  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| LAO/3/2008     | HQ116181  | porcine       | WRLFMD      | Laos                 | SEA/Mya-98             |
| LAO/2/2008     | HQ116180  | porcine       | WRLFMD      | Laos                 | SEA/Mya-98             |
| TAI/2/2009     | HQ116257  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/12/2008    | HQ116255  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/6/2008     | HQ116253  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/5/2008     | HQ116252  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/3/2008     | HQ116251  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/7/2008     | HQ116254  | water buffalo | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/2/2008     | HQ116250  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| MYA/2/2008     | HQ116226  | cattle        | WRLFMD      | Myanmar              | SEA/Mya-98             |
| LAO/1/2009     | HQ116182  | water buffalo | WRLFMD      | Laos                 | SEA/Mya-98             |
| TAI/3/2009     | HQ116258  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| MYA/12/2009    | JQ070318  | cattle        | WRLFMD      | Myanmar              | SEA/Mya-98             |
| MYA/1/2009     | n/a       | cattle        | WRLFMD      | Myanmar              | SEA/Mya-98             |
| MYA/9/2009     | HQ116230  | cattle        | WRLFMD      | Myanmar              | SEA/Mya-98             |
| MAY/28/2009    | n/a       | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MYA/3/2008     | HQ116227  | cattle        | WRLFMD      | Myanmar              | SEA/Mya-98             |
| MAY/5/2007     | HQ116209  | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| TAI/6/2007     | HQ116242  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/12/2007    | HQ116247  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/7/2007     | HQ116243  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| MAY/4/2007     | HQ116208  | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/6/2007     | HQ116210  | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| TAI/14/2007    | HQ116249  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| TAI/9/2007     | HQ116245  | cattle        | WRLFMD      | Thailand             | SEA/Mya-98             |
| MAY/9/2007     | HQ116212  | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| MAY/7/2007     | HQ116211  | cattle        | WRLFMD      | Malaysia             | SEA/Mya-98             |
| LAO/1/2007     | HQ116175  | water buffalo | WRLFMD      | Laos                 | SEA/Mya-98             |
| MYA/7/98       | DQ164925  | bovine        | WRLFMD      | Myanmar              | SEA/Mya-98             |
| CAM/3/98       | AJ294910  | bovine        | WRLFMD      | Cambodia             | SEA/Cam-94             |
| TAI/189/87*    | n/a       | bovine        | TRRL        | Thailand             | SEA                    |
| IND/53/79      | AF292107  | bovine        | PD-FMD      | India                | ME-SA                  |
| UKG/35/2001    | AJ539141  | porcine       | PIADC       | United Kingdom       | ME-SA/PanAsia          |
| IRN/88/2009    | n/a       | n/a           | WRLFMD      | Iran                 | ME-SA/PanAsia-2/ANT-10 |
| IRN/8/2005     | n/a       | ovine         | WRLFMD      | Iran                 | ME-SA/PanAsia-2        |
| IRN/31/2009    | n/a       | cattle        | WRLFMD      | Iran                 | ME-SA/PanAsia-2/FAR-09 |
| TUR/264/2009*  | n/a       | n/a           | FMDI-Ankara | Turkey               | ME-SA/PanAsia-2/SAN-09 |
| TUR/257/2008*  | n/a       | n/a           | FMDI-Ankara | Turkey               | ME-SA/PanAsia-2/TER-08 |
| BHU/3/2009     | KM921814  | cattle        | WRLFMD      | Bhutan               | ME-SA/Ind-2001/d       |
| KUW/3/97       | DQ164904  | bovine        | WRLFMD      | Kuwait               | ME-SA/Ind-2001/a       |
| OMN/7/2001     | DQ164941  | bovine        | WRLFMD      | Oman                 | ME-SA/Ind-2001/b       |
| UAE/4/2008     | KM921876  | gazelle       | WRLFMD      | United Arab Emirates | ME-SA/Ind-2001/c       |
| IND/R2/75*     | AF204276  | n/a           | PD-FMD      | India                | ME-SA                  |
| Manisa/TUR/69* | AY593823  | n/a           | PIADC       | Turkey               | ME-SA                  |

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n/a, not available