

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

## Genotyping Report

FMDV serotype: O  
Country: Indonesia  
Year: 2022  
Batch: WRLMEG/2022/00013  
No. of sequences: 1  
Report date: 12th May 2022  
Report generated by: Nick Knowles  
Report checked by: Don King

This report is prepared on behalf of [REDACTED]  
[REDACTED], and covers a VP1 sequence submitted to the WRLFMD on 9th  
May 2022.



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

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

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|   |  |
|---|--|
| Virus sample name:  | VL6-J-T/ISA/2022                             |
| Sender reference:   | VL6 J T                                      |
| Location of origin:   | East Java                                    |
| Country of origin:  | Indonesia                                    |
| Date of collection:   | 2022   |
| Host species:   |  |
| Serotype:   | O  |
| Topotype:   | ME-SA  |
| Lineage:  | Ind-2001                                     |
| Sublineage:   | e  |
| Sequence length:  | 633  |
| Ambiguities:  | 0  |
| Material submitted for sequencing:  | n/a  |
| Harvest date of material:   | n/a  |
| Primers:  | O-1C609/NK72; A-1C612/NK61; Asia1-1C505/NK61 |
| Received for sequencing:  | n/a  |
| Created:  | 10/05/2022                                   |
| Last updated:   | 10/05/2022                                   |
| VIBASys IDs: sample 50502, genome 50503, sequence viba_50504, sequencing info 50505 |  |

### Most Closely Related Sequences

| sequence   | virus name     | Host   | % Id. | # Ambig. | serotype | topotype | lineage  | sublineage |
|------------|----------------|--------|-------|----------|----------|----------|----------|------------|
| viba_50549 | TAI/30/2021    | bovine | 96.4  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_37025 | XJ/CHA/2017    | cattle | 96.1  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_32124 | XJBC/CHA/2017  |        | 96.1  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_37185 | MAY/3/2018     | cattle | 95.9  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_46431 | IND/PD287/2015 | cattle | 95.9  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_33101 | MYA/13/2017    | cattle | 95.9  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_37189 | MAY/4/2018     | cattle | 95.9  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_46487 | IND/PD199/2016 | cattle | 95.7  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_37181 | MAY/2/2018     | cattle | 95.7  | 0        | O        | ME-SA    | Ind-2001 | e          |
| viba_46483 | IND/PD198/2016 | cattle | 95.7  | 0        | O        | ME-SA    | Ind-2001 | e          |

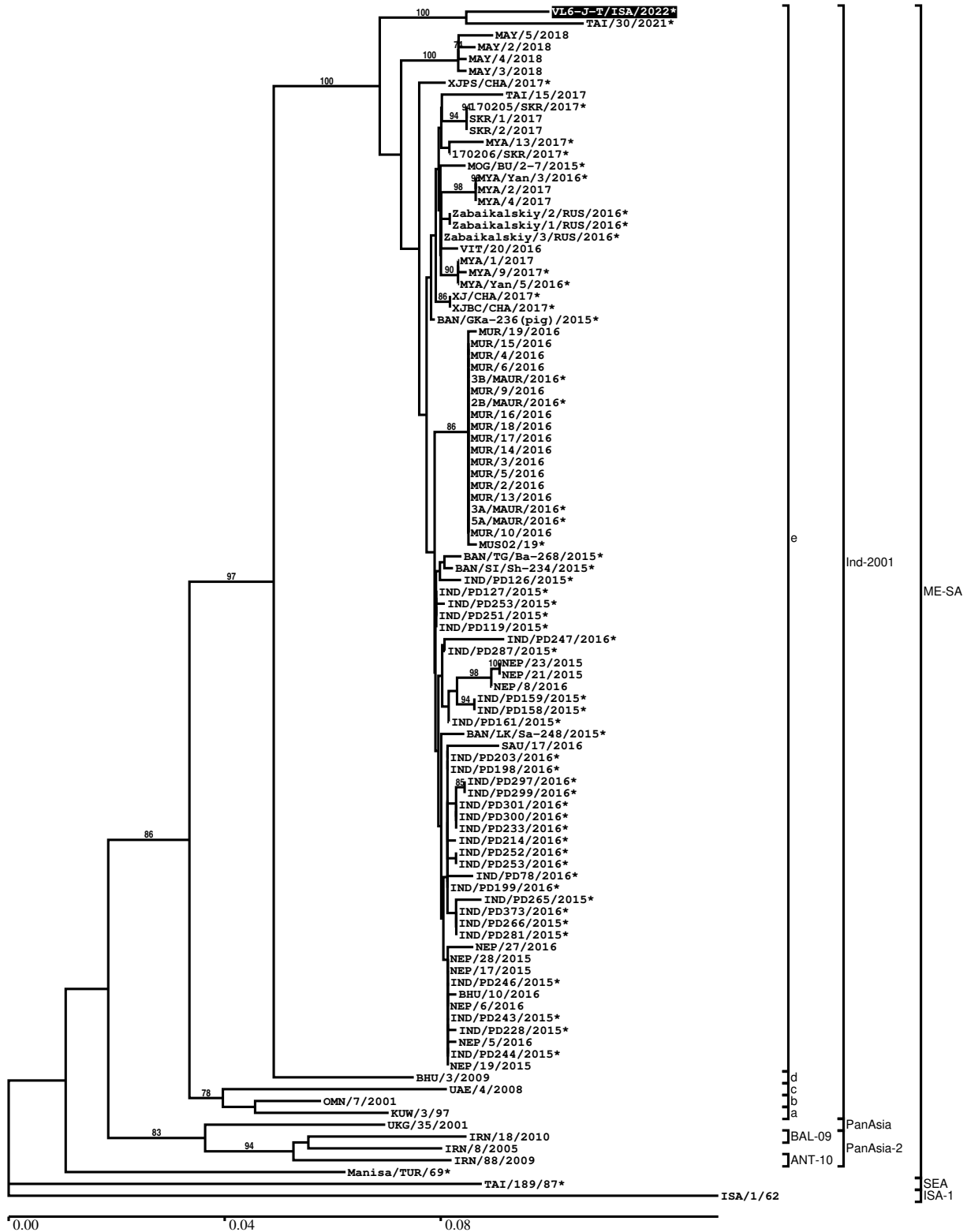
### Most Closely Related Prototype Sequences

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

| sequence   | virus name    | Host    | % Id. | # Ambig. | serotype | topotype | lineage   | sublineage |
|------------|---------------|---------|-------|----------|----------|----------|-----------|------------|
| viba_30238 | MUR/19/2016   | cattle  | 95.3  | 0        | O        | ME-SA    | Ind-2001  | e          |
| viba_293   | BHU/3/2009    | cattle  | 91.9  | 0        | O        | ME-SA    | Ind-2001  | d          |
| viba_541   | OMN/7/2001    | bovine  | 91.5  | 0        | O        | ME-SA    | Ind-2001  | b          |
| viba_705   | KUW/3/97      | bovine  | 90.5  | 0        | O        | ME-SA    | Ind-2001  | a          |
| viba_397   | UAE/4/2008    | gazelle | 89.3  | 0        | O        | ME-SA    | Ind-2001  | c          |
| viba_650   | IRN/8/2005    | ovine   | 88.3  | 0        | O        | ME-SA    | PanAsia-2 |            |
| viba_285   | UKG/35/2001   | porcine | 88.2  | 0        | O        | ME-SA    | PanAsia   |            |
| viba_359   | Manisa/TUR/69 |         | 87.8  | 0        | O        | ME-SA    |           |            |
| viba_666   | IRN/18/2010   | cattle  | 87.7  | 0        | O        | ME-SA    | PanAsia-2 | BAL-09     |
| viba_719   | IRN/88/2009   |         | 87.6  | 0        | O        | ME-SA    | PanAsia-2 | ANT-10     |

Report on FMDV O in Indonesia in 2022

Batch: WRLMEG/2022/00013



\*, not a WRLFMD Reference Number

## Analysis Parameters

|  |   |
|--|---|
| VP1 subsequence extractor:             | vp1_O                                       |
| Query sequence set:                    | WRLMEG/2022/00013-Indonesia-O (1 sequences) |
| Sequence database set:                 | allseqs_O (5568 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: | 10  |
| 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 |
|--------------------------|-----------|---------------|------------|---------------------------------|-----------------------|
| VL6-J-T/ISA/2022*        | n/a       | n/a           | Pusvetma   | Indonesia                       | ME-SA/Ind-2001/e      |
| TAI/30/2021*             | n/a       | bovine        | TRRL       | Thailand                        | ME-SA/Ind-2001/e      |
| MAY/5/2018               | n/a       | water buffalo | WRLFMD     | Malaysia                        | ME-SA/Ind-2001/e      |
| MAY/2/2018               | n/a       | cattle        | WRLFMD     | Malaysia                        | ME-SA/Ind-2001/e      |
| MAY/4/2018               | n/a       | cattle        | WRLFMD     | Malaysia                        | ME-SA/Ind-2001/e      |
| MAY/3/2018               | n/a       | cattle        | WRLFMD     | Malaysia                        | ME-SA/Ind-2001/e      |
| XJPS/CHA/2017*           | KY696707  | n/a           | LVRI       | China                           | ME-SA/Ind-2001/e      |
| TAI/15/2017              | n/a       | cattle        | WRLFMD     | Thailand                        | ME-SA/Ind-2001/e      |
| 170205/SKR/2017*         | n/a       | cattle        | QIA        | Republic of Korea (South Korea) | ME-SA/Ind-2001/e      |
| SKR/1/2017               | MG972599  | cattle        | WRLFMD     | Republic of Korea (South Korea) | ME-SA/Ind-2001/e      |
| SKR/2/2017               | MG972600  | cattle        | WRLFMD     | Republic of Korea (South Korea) | ME-SA/Ind-2001/e      |
| MYA/13/2017*             | MG972527  | cattle        | TRRL       | Myanmar                         | ME-SA/Ind-2001/e      |
| 170206/SKR/2017*         | n/a       | cattle        | QIA        | Republic of Korea (South Korea) | ME-SA/Ind-2001/e      |
| MOG/BU/2-7/2015*         | LC320038  | cattle        | NIAH-Japan | Mongolia                        | ME-SA/Ind-2001/e      |
| MYA/Yan/3/2016*          | LC438822  | cattle        | NIAH-Japan | Myanmar                         | ME-SA/Ind-2001/e      |
| MYA/2/2017               | MG972518  | cattle        | WRLFMD     | Myanmar                         | ME-SA/Ind-2001/e      |
| MYA/4/2017               | MG972519  | cattle        | WRLFMD     | Myanmar                         | ME-SA/Ind-2001/e      |
| Zabaikalskiy/2/RUS/2016* | MG972583  | cattle        | ARRIAH     | Russia                          | ME-SA/Ind-2001/e      |
| Zabaikalskiy/1/RUS/2016* | MG983720  | cattle        | ARRIAH     | Russia                          | ME-SA/Ind-2001/e      |
| Zabaikalskiy/3/RUS/2016* | MG972584  | cattle        | ARRIAH     | Russia                          | ME-SA/Ind-2001/e      |
| VIT/20/2016              | MG972619  | cattle        | WRLFMD     | Vietnam                         | ME-SA/Ind-2001/e      |
| MYA/1/2017               | MG972517  | cattle        | WRLFMD     | Myanmar                         | ME-SA/Ind-2001/e      |
| MYA/9/2017*              | MG972523  | cattle        | TRRL       | Myanmar                         | ME-SA/Ind-2001/e      |
| MYA/Yan/5/2016*          | LC438823  | cattle        | NIAH-Japan | Myanmar                         | ME-SA/Ind-2001/e      |
| XJ/CHA/2017*             | MF461724  | cattle        | LVRI       | China                           | ME-SA/Ind-2001/e      |
| XJBC/CHA/2017*           | KY696708  | n/a           | LVRI       | China                           | ME-SA/Ind-2001/e      |
| BAN/GKa-236(pig)/2015*   | KX712091  | porcine       | Univ Dhaka | Bangladesh                      | ME-SA/Ind-2001/e      |
| MUR/19/2016              | MG972510  | cattle        | WRLFMD     | Mauritius                       | ME-SA/Ind-2001/e      |
| MUR/15/2016              | MG972506  | cattle        | WRLFMD     | Mauritius                       | ME-SA/Ind-2001/e      |

*continued on next page*

| label               | accession | host(s)       | lab        | country              | taxonomic information |
|---------------------|-----------|---------------|------------|----------------------|-----------------------|
| MUR/4/2016          | MG972496  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/6/2016          | MG972498  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| 3B/MAUR/2016*       | n/a       | bovine        | ANSES      | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/9/2016          | MG972501  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| 2B/MAUR/2016*       | n/a       | bovine        | ANSES      | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/16/2016         | MG972507  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/18/2016         | MG972509  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/17/2016         | MG972508  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/14/2016         | MG972505  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/3/2016          | MG972495  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/5/2016          | MG972497  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/2/2016          | MG972494  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/13/2016         | MG972504  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| 3A/MAUR/2016*       | n/a       | bovine        | ANSES      | Mauritius            | ME-SA/Ind-2001/e      |
| 5A/MAUR/2016*       | n/a       | bovine        | ANSES      | Mauritius            | ME-SA/Ind-2001/e      |
| MUR/10/2016         | MG972502  | cattle        | WRLFMD     | Mauritius            | ME-SA/Ind-2001/e      |
| MUS02/19*           | n/a       | bovine        | BVI        | Mauritius            | ME-SA/Ind-2001/e      |
| BAN/TG/Ba-268/2015* | KY077621  | cattle        | Univ Dhaka | Bangladesh           | ME-SA/Ind-2001/e      |
| BAN/SI/Sh-234/2015* | KY077610  | cattle        | Univ Dhaka | Bangladesh           | ME-SA/Ind-2001/e      |
| IND/PD126/2015*     | MT909626  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD127/2015*     | MT909627  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD253/2015*     | MT909653  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD251/2015*     | MT909652  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD119/2015*     | MT909624  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD247/2016*     | MT909679  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD287/2015*     | MT909659  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| NEP/23/2015         | MG972550  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| NEP/21/2015         | MG972549  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| NEP/8/2016          | MG972556  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| IND/PD159/2015*     | MT909635  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD158/2015*     | MT909634  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD161/2015*     | MT909637  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| BAN/LK/Sa-248/2015* | KY077612  | cattle        | Univ Dhaka | Bangladesh           | ME-SA/Ind-2001/e      |
| SAU/17/2016         | MG972598  | cattle        | WRLFMD     | Saudi Arabia         | ME-SA/Ind-2001/e      |
| IND/PD203/2016*     | MT909674  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD198/2016*     | MT909672  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD297/2016*     | MT909685  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD299/2016*     | MT909686  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD301/2016*     | MT909688  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD300/2016*     | MT909687  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD233/2016*     | MT909676  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD214/2016*     | MT909675  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD252/2016*     | MT909680  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD253/2016*     | MT909681  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD78/2016*      | MT909668  | water buffalo | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD199/2016*     | MT909673  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD265/2015*     | MT909654  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD373/2016*     | MT909702  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD266/2015*     | MT909655  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD281/2015*     | MT909658  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| NEP/27/2016         | MG972569  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| NEP/28/2015         | KY449052  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| NEP/17/2015         | KY449050  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| IND/PD246/2015*     | MT909650  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| BHU/10/2016         | MG972484  | cattle        | WRLFMD     | Bhutan               | ME-SA/Ind-2001/e      |
| NEP/6/2016          | KY449054  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| IND/PD243/2015*     | MT909648  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| IND/PD228/2015*     | MT909646  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| NEP/5/2016          | KY449053  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| IND/PD244/2015*     | MT909649  | cattle        | PD-FMD     | India                | ME-SA/Ind-2001/e      |
| NEP/19/2015         | KY449051  | cattle        | WRLFMD     | Nepal                | ME-SA/Ind-2001/e      |
| BHU/3/2009          | KM921814  | cattle        | WRLFMD     | Bhutan               | ME-SA/Ind-2001/d      |
| UAE/4/2008          | KM921876  | gazelle       | WRLFMD     | United Arab Emirates | ME-SA/Ind-2001/c      |
| OMN/7/2001          | DQ164941  | bovine        | WRLFMD     | Oman                 | ME-SA/Ind-2001/b      |
| KUW/3/97            | DQ164904  | bovine        | WRLFMD     | Kuwait               | ME-SA/Ind-2001/a      |

*continued on next page*

| label          | accession | host(s) | lab    | country        | taxonomic information  |
|----------------|-----------|---------|--------|----------------|------------------------|
| UKG/35/2001    | AJ539141  | porcine | PIADC  | United Kingdom | ME-SA/PanAsia          |
| IRN/18/2010    | KY091283  | cattle  | WRLFMD | Iran           | ME-SA/PanAsia-2/BAL-09 |
| IRN/8/2005     | KY091281  | ovine   | WRLFMD | Iran           | ME-SA/PanAsia-2        |
| IRN/88/2009    | KY091282  | n/a     | WRLFMD | Iran           | ME-SA/PanAsia-2/ANT-10 |
| Manisa/TUR/69* | AY593823  | n/a     | PIADC  | Turkey         | ME-SA                  |
| TAI/189/87*    | KY091288  | bovine  | TRRL   | Thailand       | SEA                    |
| ISA/1/62       | AJ303500  | n/a     | WRLFMD | Indonesia      | ISA-1                  |

\*, not a WRLFMD Reference Number

n/a, not available