

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

Genotyping Report v2

Report Date for this Batch: 15 July 2015

FMDV type O

Country: Egypt

Period: 2014-2015

No. of sequences: 8

Originator:



Version 2 correcting the mis-naming of samples collected in 2015 as 2014



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FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

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| | |
|---|--|
| Serotype: O WRLFMD Ref No: RL-440/EGY/2014 Batch No: WRLMEG/2015/00010 Sender Ref: RL 440_Egypt_FMDV-O_2014 Location: Shobra Kobala, Senbelaween, Dakahlia, Egypt Date collected: 29/10/2014 Date received by WRLFMD: 10/07/2015 Date received for sequencing: Species: Cattle Material used: LFBK1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R | Report date: 14/07/2015 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: EA-3 Genotype/strain: unnamed Sequence filename: EGY14-AA.SEQ Date sequence last updated: 13/07/2015 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 4150 Min. no. of nt for comparison: 600 Total turn-around time: 4 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | O/EGY/34/2014 | EGY14-34 | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 2 | O/EGY/36/2014 | EGY14-36 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 3 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 4 | O/RL-902/EGY/2015 (IZSLER) | EGY15-AA | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 5 | O/EGY/29/2014 | EGY14-29 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 6 | O/EGY/32/2014 | EGY14-32 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 7 | O/RL-936/EGY/2015 (IZSLER) | EGY15-AC | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 8 | O/EGY/25/2014 | EGY14-25 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 9 | O/EGY/27/2014 | EGY14-27 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 10 | O/RL-455/EGY/2014 (IZSLER) | EGY14-AE | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| Most Closely Related Reference Viruses | | | | | | | | | |
| (see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm) | | | | | | | | | |
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 577 | 0 | 90.30 | 9.70 | EA-3 | unnamed |
| 2 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 554 | 0 | 86.70 | 13.30 | ME-SA | unnamed |
| 3 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 551 | 1 | 86.36 | 13.64 | EA-1 | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 549 | 0 | 85.92 | 14.08 | EA-3 | unnamed |
| 5 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 548 | 0 | 85.76 | 14.24 | EA-3 | unnamed |
| 6 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 545 | 0 | 85.29 | 14.71 | ME-SA | unnamed |
| 7 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 545 | 0 | 85.29 | 14.71 | ME-SA | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 544 | 0 | 85.13 | 14.87 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O/UKG/35/2001 (AJ539141) | UKG01-35 | 639 | 544 | 0 | 85.13 | 14.87 | ME-SA | PanAsia |
| 10 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 543 | 0 | 84.98 | 15.02 | WA | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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| | |
|--------------------------------------|--|
| Serotype: O | Report date: 14/07/2015 |
| WRLFMD Ref No: RL-453/EGY/2014 | Reported by: N.J. Knowles |
| Batch No: WRLMEG/2015/00010 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: RL 453_Egypt_FMDV-O_2014 | |
| Location: Edwa, Edwa, Menia, Egypt | Topotype: EA-3 |
| Date collected: 07/11/2014 | Genotype/strain: unnamed |
| Date received by WRLFMD: 10/07/2015 | Sequence filename: EGY14-AC.SEQ |
| Date received for sequencing: | Date sequence last updated: 13/07/2015 |
| Species: Cattle | No. of Nt determined: 639 |
| Material used: LFBK1 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 639 |
| RT-PCR primers: O-1C244F/EUR-2B52R | Total no. of comparisons: 4150 |
| O-1C272F/EUR-2B52R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 4 days |
| Comments: | |

Most Closely Related Viruses

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|---------|
| 1 | O/EGY/34/2014 | EGY14-34 | 639 | 636 | 0 | 99.53 | 0.47 | EA-3 | unnamed |
| 2 | O/EGY/36/2014 | EGY14-36 | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 3 | O/EGY/29/2014 | EGY14-29 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 4 | O/EGY/32/2014 | EGY14-32 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 5 | O/RL-440/EGY/2014 (IZSLER) | EGY14-AA | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 6 | O/RL-902/EGY/2015 (IZSLER) | EGY15-AA | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 7 | O/EGY/25/2014 | EGY14-25 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 8 | O/EGY/27/2014 | EGY14-27 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 9 | O/RL-455/EGY/2014 (IZSLER) | EGY14-AE | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 10 | O/RL-936/EGY/2015 (IZSLER) | EGY15-AC | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |

Most Closely Related Reference Viruses

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

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 577 | 0 | 90.30 | 9.70 | EA-3 | unnamed |
| 2 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 551 | 0 | 86.23 | 13.77 | ME-SA | unnamed |
| 3 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 549 | 1 | 86.05 | 13.95 | EA-1 | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 547 | 0 | 85.60 | 14.40 | EA-3 | unnamed |
| 5 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 546 | 0 | 85.45 | 14.55 | EA-3 | unnamed |
| 6 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 546 | 0 | 85.45 | 14.55 | ME-SA | unnamed |
| 7 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 543 | 0 | 84.98 | 15.02 | WA | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 543 | 0 | 84.98 | 15.02 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 542 | 0 | 84.82 | 15.18 | ME-SA | unnamed |
| 10 | O/UKG/35/2001 (AJ539141) | UKG01-35 | 639 | 541 | 0 | 84.66 | 15.34 | ME-SA | PanAsia |

nt, nucleotides

*, not a WRLFMD reference number

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| | |
|--|--|
| Serotype: O WRLFMD Ref No: RL-455/EGY/2014 Batch No: WRLMEG/2015/00010 Sender Ref: RL 455_Egypt_FMDV-O_2014 Location: Kafrel Agiaza, Sheben El Kom, Monofia, Egypt Date collected: 06/11/2014 Date received by WRLFMD: 10/07/2015 Date received for sequencing: Species: Cattle Material used: LFBK1 Region sequenced: VP1 RT-PCR primers: O-1C244F/EUR-2B52R O-1C272F/EUR-2B52R | Report date: 14/07/2015 Reported by: N.J. Knowles Checked by: K. Bachanek-Bankowska Topotype: EA-3 Genotype/strain: unnamed Sequence filename: EGY14-AE.SEQ Date sequence last updated: 13/07/2015 No. of Nt determined: 639 No. of ambiguities: 0 Gene length: 639 Total no. of comparisons: 4150 Min. no. of nt for comparison: 600 Total turn-around time: 4 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | O/EGY/29/2014 | EGY14-29 | 639 | 638 | 0 | 99.84 | 0.16 | EA-3 | unnamed |
| 2 | O/RL-937/EGY/2015 (IZSLER) | EGY15-AD | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 3 | O/EGY/32/2014 | EGY14-32 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 4 | O/EGY/25/2014 | EGY14-25 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 5 | O/EGY/27/2014 | EGY14-27 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 6 | O/EGY/34/2014 | EGY14-34 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 7 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 8 | O/EGY/26/2014 | EGY14-26 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 9 | O/EGY/36/2014 | EGY14-36 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 10 | O/RL-440/EGY/2014 (IZSLER) | EGY14-AA | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| Most Closely Related Reference Viruses | | | | | | | | | |
| (see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm) | | | | | | | | | |
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 575 | 0 | 89.98 | 10.02 | EA-3 | unnamed |
| 2 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 548 | 0 | 85.76 | 14.24 | ME-SA | unnamed |
| 3 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 547 | 1 | 85.74 | 14.26 | EA-1 | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 545 | 0 | 85.29 | 14.71 | EA-3 | unnamed |
| 5 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 544 | 0 | 85.13 | 14.87 | EA-3 | unnamed |
| 6 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 543 | 0 | 84.98 | 15.02 | WA | unnamed |
| 7 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 542 | 0 | 84.82 | 15.18 | ME-SA | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 541 | 0 | 84.66 | 15.34 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 540 | 0 | 84.51 | 15.49 | ME-SA | unnamed |
| 10 | O/UGA/17/98 (HM211075) | UGA98-17 | 639 | 538 | 0 | 84.19 | 15.81 | EA-4 | unnamed |

nt, nucleotides

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| | |
|--|--|
| Serotype: O | Report date: 14/07/2015 |
| WRLFMD Ref No: RL-902/EGY/2015 | Reported by: N.J. Knowles |
| Batch No: WRLMEG/2015/00010 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: RL 902_Egypt_FMDV-O_2015 | |
| Location: Barsha, Malawi, Menia, Egypt | Topotype: EA-3 |
| Date collected: 17/03/2015 | Genotype/strain: unnamed |
| Date received by WRLFMD: 10/07/2015 | Sequence filename: EGY15-AA.SEQ |
| Date received for sequencing: | Date sequence last updated: 13/07/2015 |
| Species: Cattle | No. of Nt determined: 639 |
| Material used: LFBK1 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 639 |
| RT-PCR primers: O-1C244F/EUR-2B52R | Total no. of comparisons: 4150 |
| O-1C272F/EUR-2B52R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 4 days |
| Comments: | |

| Most Closely Related Viruses | | | | | | | | | |
|--|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | O/RL-936/EGY/2015 (IZSLER) | EGY15-AC | 639 | 636 | 0 | 99.53 | 0.47 | EA-3 | unnamed |
| 2 | O/EGY/34/2014 | EGY14-34 | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 3 | O/RL-939/EGY/2015 (IZSLER) | EGY15-AE | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 4 | O/RL-940/EGY/2015 (IZSLER) | EGY15-AF | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 5 | O/EGY/36/2014 | EGY14-36 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 6 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 7 | O/RL-440/EGY/2014 (IZSLER) | EGY14-AA | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 8 | O/EGY/29/2014 | EGY14-29 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 9 | O/EGY/32/2014 | EGY14-32 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 10 | O/EGY/25/2014 | EGY14-25 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| Most Closely Related Reference Viruses | | | | | | | | | |
| (see http://www.wrlfmd.org/fmd_genotyping/prototypes.htm) | | | | | | | | | |
| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 577 | 0 | 90.30 | 9.70 | EA-3 | unnamed |
| 2 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 552 | 0 | 86.38 | 13.62 | ME-SA | unnamed |
| 3 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 549 | 1 | 86.05 | 13.95 | EA-1 | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 549 | 0 | 85.92 | 14.08 | EA-3 | unnamed |
| 5 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 548 | 0 | 85.76 | 14.24 | EA-3 | unnamed |
| 6 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 546 | 0 | 85.45 | 14.55 | ME-SA | unnamed |
| 7 | O/PAK/16/2010 | PAK10-16 | 639 | 544 | 0 | 85.13 | 14.87 | ME-SA | PanAsia-2 ^{PUN-10} |
| 8 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 543 | 0 | 84.98 | 15.02 | WA | unnamed |
| 9 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 543 | 0 | 84.98 | 15.02 | ME-SA | unnamed |
| 10 | O/UKG/35/2001 (AJ539141) | UKG01-35 | 639 | 542 | 0 | 84.82 | 15.18 | ME-SA | PanAsia |

nt, nucleotides

*, not a WRLFMD reference number

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| | |
|--------------------------------------|--|
| Serotype: O | Report date: 14/07/2015 |
| WRLFMD Ref No: RL-936/EGY/2015 | Reported by: N.J. Knowles |
| Batch No: WRLMEG/2015/00010 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: RL 936_Egypt_FMDV-O_2015 | |
| Location: Samasta, Banisuif, Egypt | Topotype: EA-3 |
| Date collected: 31/03/2015 | Genotype/strain: unnamed |
| Date received by WRLFMD: 10/07/2015 | Sequence filename: EGY15-AC.SEQ |
| Date received for sequencing: | Date sequence last updated: 13/07/2015 |
| Species: Cattle | No. of Nt determined: 639 |
| Material used: LFBK1 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 639 |
| RT-PCR primers: O-1C244F/EUR-2B52R | Total no. of comparisons: 4150 |
| O-1C272F/EUR-2B52R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 4 days |
| Comments: | |

Most Closely Related Viruses

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|---------|
| 1 | O/RL-940/EGY/2015 (IZSLER) | EGY15-AF | 639 | 638 | 0 | 99.84 | 0.16 | EA-3 | unnamed |
| 2 | O/RL-902/EGY/2015 (IZSLER) | EGY15-AA | 639 | 636 | 0 | 99.53 | 0.47 | EA-3 | unnamed |
| 3 | O/RL-939/EGY/2015 (IZSLER) | EGY15-AE | 639 | 636 | 0 | 99.53 | 0.47 | EA-3 | unnamed |
| 4 | O/EGY/36/2014 | EGY14-36 | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 5 | O/EGY/34/2014 | EGY14-34 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 6 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 7 | O/EGY/25/2014 | EGY14-25 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 8 | O/RL-440/EGY/2014 (IZSLER) | EGY14-AA | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 9 | O/EGY/26/2014 | EGY14-26 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 10 | O/EGY/29/2014 | EGY14-29 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |

Most Closely Related Reference Viruses

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

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 578 | 0 | 90.45 | 9.55 | EA-3 | unnamed |
| 2 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 552 | 1 | 86.52 | 13.48 | EA-1 | unnamed |
| 3 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 552 | 0 | 86.38 | 13.62 | ME-SA | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 548 | 0 | 85.76 | 14.24 | EA-3 | unnamed |
| 5 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 547 | 0 | 85.60 | 14.40 | ME-SA | unnamed |
| 6 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 546 | 0 | 85.45 | 14.55 | WA | unnamed |
| 7 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 545 | 0 | 85.29 | 14.71 | EA-3 | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 545 | 0 | 85.29 | 14.71 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O/UKG/35/2001 (AJ539141) | UKG01-35 | 639 | 543 | 0 | 84.98 | 15.02 | ME-SA | PanAsia |
| 10 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 542 | 0 | 84.82 | 15.18 | ME-SA | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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|--|--|
| Serotype: O | Report date: 14/07/2015 |
| WRLFMD Ref No: RL-937/EGY/2015 | Reported by: N.J. Knowles |
| Batch No: WRLMEG/2015/00010 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: RL 937_Egypt_FMDV-O_2015 | |
| Location: Elzawia, Assuit, Assuit, Egypt | Topotype: EA-3 |
| Date collected: 29/03/2015 | Genotype/strain: unnamed |
| Date received by WRLFMD: 10/07/2015 | Sequence filename: EGY15-AD.SEQ |
| Date received for sequencing: | Date sequence last updated: 13/07/2015 |
| Species: Cattle | No. of Nt determined: 639 |
| Material used: LFBK1 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 639 |
| RT-PCR primers: O-1C244F/EUR-2B52R | Total no. of comparisons: 4150 |
| O-1C272F/EUR-2B52R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 4 days |
| Comments: | |

Most Closely Related Viruses

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|---------|
| 1 | O/EGY/29/2014 | EGY14-29 | 639 | 636 | 0 | 99.53 | 0.47 | EA-3 | unnamed |
| 2 | O/RL-455/EGY/2014 (IZSLER) | EGY14-AE | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 3 | O/EGY/32/2014 | EGY14-32 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 4 | O/EGY/25/2014 | EGY14-25 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 5 | O/EGY/27/2014 | EGY14-27 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 6 | O/EGY/34/2014 | EGY14-34 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 7 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 8 | O/RL-902/EGY/2015 (IZSLER) | EGY15-AA | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 9 | O/EGY/26/2014 | EGY14-26 | 639 | 630 | 0 | 98.59 | 1.41 | EA-3 | unnamed |
| 10 | O/EGY/36/2014 | EGY14-36 | 639 | 630 | 0 | 98.59 | 1.41 | EA-3 | unnamed |

Most Closely Related Reference Viruses

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

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 574 | 0 | 89.83 | 10.17 | EA-3 | unnamed |
| 2 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 548 | 0 | 85.76 | 14.24 | EA-3 | unnamed |
| 3 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 547 | 1 | 85.74 | 14.26 | EA-1 | unnamed |
| 4 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 546 | 0 | 85.45 | 14.55 | EA-3 | unnamed |
| 5 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 546 | 0 | 85.45 | 14.55 | ME-SA | unnamed |
| 6 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 543 | 0 | 84.98 | 15.02 | WA | unnamed |
| 7 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 540 | 0 | 84.51 | 15.49 | ME-SA | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 539 | 0 | 84.35 | 15.65 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O/UKG/35/2001 (AJ539141) | UKG01-35 | 639 | 539 | 0 | 84.35 | 15.65 | ME-SA | PanAsia |
| 10 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 538 | 0 | 84.19 | 15.81 | ME-SA | unnamed |

nt, nucleotides

*, not a WRLFMD reference number

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FAO World Reference Laboratory for FMD Genotyping Report

IAH-P-EP-MEG-FOR-005-3

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| | |
|--------------------------------------|--|
| Serotype: O | Report date: 14/07/2015 |
| WRLFMD Ref No: RL-939/EGY/2015 | Reported by: N.J. Knowles |
| Batch No: WRLMEG/2015/00010 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: RL 939_Egypt_FMDV-O_2015 | |
| Location: Elzarka, Dommiatte, Egypt | Topotype: EA-3 |
| Date collected: 01/04/2015 | Genotype/strain: unnamed |
| Date received by WRLFMD: 10/07/2015 | Sequence filename: EGY15-AE.SEQ |
| Date received for sequencing: | Date sequence last updated: 13/07/2015 |
| Species: Cattle | No. of Nt determined: 639 |
| Material used: LFBK1 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 639 |
| RT-PCR primers: O-1C244F/EUR-2B52R | Total no. of comparisons: 4150 |
| O-1C272F/EUR-2B52R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 4 days |
| Comments: | |

Most Closely Related Viruses

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|---------|
| 1 | O/RL-936/EGY/2015 (IZSLER) | EGY15-AC | 639 | 636 | 0 | 99.53 | 0.47 | EA-3 | unnamed |
| 2 | O/RL-902/EGY/2015 (IZSLER) | EGY15-AA | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 3 | O/RL-940/EGY/2015 (IZSLER) | EGY15-AF | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 4 | O/EGY/34/2014 | EGY14-34 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 5 | O/EGY/36/2014 | EGY14-36 | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 6 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 7 | O/EGY/25/2014 | EGY14-25 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 8 | O/RL-440/EGY/2014 (IZSLER) | EGY14-AA | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 9 | O/EGY/26/2014 | EGY14-26 | 639 | 630 | 0 | 98.59 | 1.41 | EA-3 | unnamed |
| 10 | O/EGY/29/2014 | EGY14-29 | 639 | 630 | 0 | 98.59 | 1.41 | EA-3 | unnamed |

Most Closely Related Reference Viruses

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

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 577 | 0 | 90.30 | 9.70 | EA-3 | unnamed |
| 2 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 553 | 0 | 86.54 | 13.46 | ME-SA | unnamed |
| 3 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 551 | 1 | 86.36 | 13.64 | EA-1 | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 547 | 0 | 85.60 | 14.40 | EA-3 | unnamed |
| 5 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 545 | 0 | 85.29 | 14.71 | WA | unnamed |
| 6 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 544 | 0 | 85.13 | 14.87 | EA-3 | unnamed |
| 7 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 544 | 0 | 85.13 | 14.87 | ME-SA | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 544 | 0 | 85.13 | 14.87 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O/BHU/3/2009 (KM921814) | BHU09-03 | 639 | 541 | 0 | 84.66 | 15.34 | ME-SA | Ind-2001d |
| 10 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 541 | 0 | 84.66 | 15.34 | ME-SA | unnamed |

nt, nucleotides

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IAH-P-EP-MEG-FOR-005-3

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| | |
|--------------------------------------|--|
| Serotype: O | Report date: 14/07/2015 |
| WRLFMD Ref No: RL-940/EGY/2015 | Reported by: N.J. Knowles |
| Batch No: WRLMEG/2015/00010 | Checked by: K. Bachanek-Bankowska |
| Sender Ref: RL 940_Egypt_FMDV-O_2015 | |
| Location: Eldakla, New Valley, Egypt | Topotype: EA-3 |
| Date collected: 01/04/2015 | Genotype/strain: unnamed |
| Date received by WRLFMD: 10/07/2015 | Sequence filename: EGY15-AF.SEQ |
| Date received for sequencing: | Date sequence last updated: 13/07/2015 |
| Species: Cattle | No. of Nt determined: 639 |
| Material used: LFBK1 | No. of ambiguities: 0 |
| Region sequenced: VP1 | Gene length: 639 |
| RT-PCR primers: O-1C244F/EUR-2B52R | Total no. of comparisons: 4150 |
| O-1C272F/EUR-2B52R | Min. no. of nt for comparison: 600 |
| | Total turn-around time: 4 days |
| Comments: | |

Most Closely Related Viruses

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|---------|
| 1 | O/RL-936/EGY/2015 (IZSLER) | EGY15-AC | 639 | 638 | 0 | 99.84 | 0.16 | EA-3 | unnamed |
| 2 | O/RL-902/EGY/2015 (IZSLER) | EGY15-AA | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 3 | O/RL-939/EGY/2015 (IZSLER) | EGY15-AE | 639 | 635 | 0 | 99.37 | 0.63 | EA-3 | unnamed |
| 4 | O/EGY/36/2014 | EGY14-36 | 639 | 634 | 0 | 99.22 | 0.78 | EA-3 | unnamed |
| 5 | O/EGY/34/2014 | EGY14-34 | 639 | 633 | 0 | 99.06 | 0.94 | EA-3 | unnamed |
| 6 | O/RL-453/EGY/2014 (IZSLER) | EGY14-AC | 639 | 632 | 0 | 98.90 | 1.10 | EA-3 | unnamed |
| 7 | O/EGY/25/2014 | EGY14-25 | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 8 | O/RL-440/EGY/2014 (IZSLER) | EGY14-AA | 639 | 631 | 0 | 98.75 | 1.25 | EA-3 | unnamed |
| 9 | O/EGY/26/2014 | EGY14-26 | 639 | 630 | 0 | 98.59 | 1.41 | EA-3 | unnamed |
| 10 | O/EGY/29/2014 | EGY14-29 | 639 | 630 | 0 | 98.59 | 1.41 | EA-3 | unnamed |

Most Closely Related Reference Viruses

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

| Pos. | Virus name | Filename | No. nt comp. | No. nt match. | No. of ambig. | % Id. | % Diff. | Topotype | Strain |
|------|-----------------------------|----------|--------------|---------------|---------------|-------|---------|----------|-----------------------------|
| 1 | O/SUD/2/86 (DQ165075) | SUD86-02 | 639 | 577 | 0 | 90.30 | 9.70 | EA-3 | unnamed |
| 2 | O/K83/79* (AJ303511) | KEN79B83 | 638 | 551 | 1 | 86.36 | 13.64 | EA-1 | unnamed |
| 3 | O/IND/53/79 (AF292107) | IND79A53 | 639 | 551 | 0 | 86.23 | 13.77 | ME-SA | unnamed |
| 4 | O/ETH/1/2007 (FJ798137) | ETH07-01 | 639 | 547 | 0 | 85.60 | 14.40 | EA-3 | unnamed |
| 5 | O/IND/R2/75* (AF204276) | IND75--A | 639 | 546 | 0 | 85.45 | 14.55 | ME-SA | unnamed |
| 6 | O/GHA/5/93 (AJ303488) | GHA93-05 | 639 | 545 | 0 | 85.29 | 14.71 | WA | unnamed |
| 7 | O/ETH/3/2004 (FJ798109) | ETH04-03 | 639 | 544 | 0 | 85.13 | 14.87 | EA-3 | unnamed |
| 8 | O/PAK/16/2010 | PAK10-16 | 639 | 544 | 0 | 85.13 | 14.87 | ME-SA | PanAsia-2 ^{PUN-10} |
| 9 | O/UKG/35/2001 (AJ539141) | UKG01-35 | 639 | 542 | 0 | 84.82 | 15.18 | ME-SA | PanAsia |
| 10 | O1/Manisa/TUR/69 (AY593823) | TUR69--G | 639 | 541 | 0 | 84.66 | 15.34 | ME-SA | unnamed |

nt, nucleotides

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Report on FMDV O in Egypt in 2014-2015

Batch: WRLMEG/2015/00010

◆ indicates viruses in this batch

Software: MEGA 6.06

Analysis

Analysis ----- Phylogeny Reconstruction

Scope ----- All Selected Taxa

Statistical Method ----- Neighbor-joining

Phylogeny Test

Test of Phylogeny ----- Bootstrap method

No. of Bootstrap Replications ----- 1000

Substitution Model

Substitutions Type ----- Nucleotide

Model/Method ----- Kimura 2-parameter model

Substitutions to Include ----- d: Transitions + Transversions

Rates and Patterns

Rates among Sites ----- Uniform rates

Pattern among Lineages ----- Same (Homogeneous)

Data Subset to Use

Gaps/Missing Data Treatment ----- Pairwise deletion

Codons Included ----- 1st+2nd+3rd+Non-Coding

No. of Sites : 642

No Of Bootstrap Reps = 1000

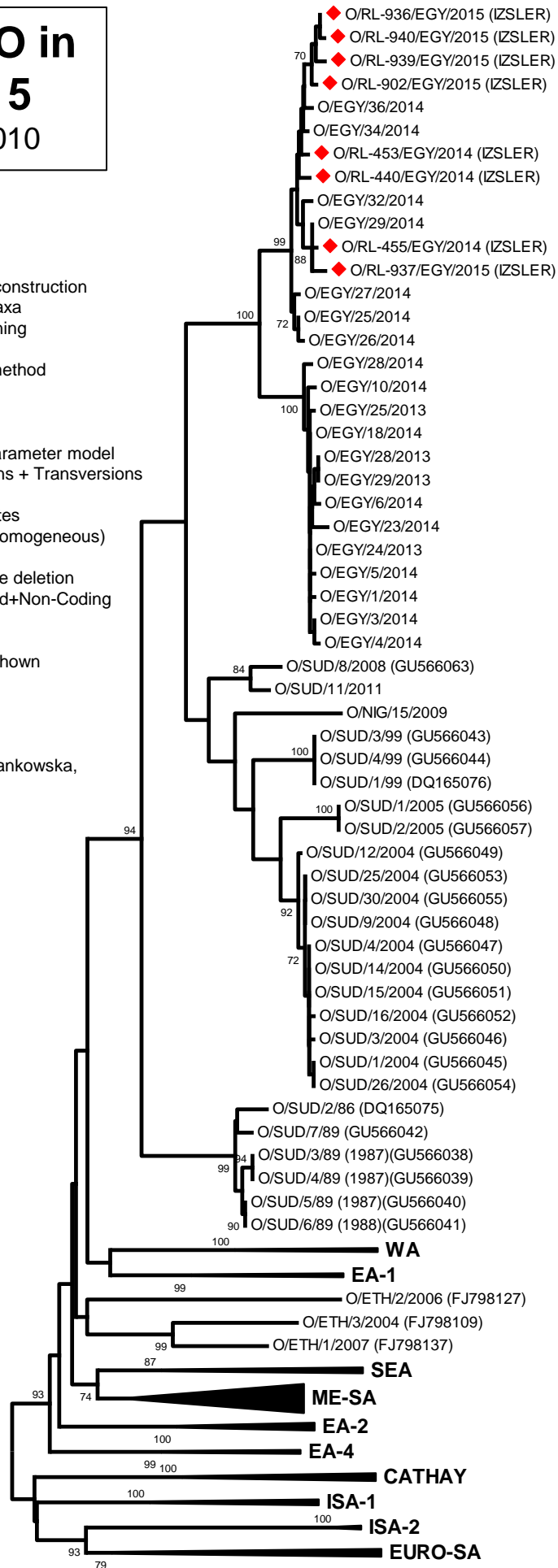
Only bootstrap values of 70% and above are shown

*, not a WRLFMD Ref. No.

N.J. Knowles, J. Wadsworth & K. Bachanek-Bankowska,
15 July 2015

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EA-3

EA-3

0.02