

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

## Genotyping Report

Report Date for this Batch: 10 July 2014

FMDV type O

Country: Nigeria

Period: 2011-2014

No. of samples: 10

BATCH: WRLFMD/2014/00016



The contents of this report are copyright and should not be reproduced without permission

© The Pirbright Institute

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/1/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: MKD/FMD2011/04E	
Location: Makurdi, Benue State, Nigeria	Topotype: EA-3
Date collected: 11/06/2011	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG11-01.SEQ
Date received for sequencing: 02/05/2014	Date sequence last updated: 07/05/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 24/04/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 69 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/NIG/10/2011	NIG11-10	639	639	0	100.00	0.00	EA-3	unnamed
2	O/NIG/8/2011	NIG11-08	639	639	0	100.00	0.00	EA-3	unnamed
3	O/NIG/15/2009	NIG09-15	639	630	0	98.59	1.41	EA-3	unnamed
4	O/SUD/3/2005 (GU566058)	SUD05-03	639	602	0	94.21	5.79	EA-3	unnamed
5	O/SUD/1/2005 (GU566056)	SUD05-01	639	601	0	94.05	5.95	EA-3	unnamed
6	O/SUD/2/2005 (GU566057)	SUD05-02	639	601	0	94.05	5.95	EA-3	unnamed
7	O/NIG/1/2007	NIG07-01	639	594	0	92.96	7.04	EA-3	unnamed
8	O/SUD/3/2004 (GU566046)	SUD04-03	639	593	0	92.80	7.20	EA-3	unnamed
9	O/SUD/12/2004 (GU566049)	SUD04-12	639	592	0	92.64	7.36	EA-3	unnamed
10	O/SUD/14/2004 (GU566050)	SUD04-14	639	592	0	92.64	7.36	EA-3	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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	572	0	89.51	10.49	EA-3	unnamed
2	O/ETH/1/2007 (FJ798137)	ETH07-01	639	557	0	87.17	12.83	EA-3	unnamed
3	O/IND/53/79 (AF292107)	IND79A53	639	548	0	85.76	14.24	ME-SA	unnamed
4	O/GHA/5/93 (AJ303488)	GHA93-05	639	547	0	85.60	14.40	WA	unnamed
5	O/UGA/17/98 (HM211075)	UGA98-17	639	546	0	85.45	14.55	EA-4	unnamed
6	O/ETH/2/2006 (FJ798127)	ETH06-02	639	545	0	85.29	14.71	EA-3	unnamed
7	O/ETH/3/2004 (FJ798109)	ETH04-03	639	545	0	85.29	14.71	EA-3	unnamed
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	542	0	84.82	15.18	ME-SA	PanAsia
9	O/CIV/8/99 (AJ303485)	CIV99-08	639	541	0	84.66	15.34	WA	unnamed
10	O/K83/79* (AJ303511)	KEN79B83	638	540	1	84.64	15.36	EA-1	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/3/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: KG/OKE BUKU/5	
Location: Oke Buku, Kogi State, Nigeria	Topotype: WA
Date collected: 26/06/2011	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG11-03.SEQ
Date received for sequencing: 09/06/2014	Date sequence last updated: 11/06/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 04/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 31 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/TOG/1/2004	TOG04-01	639	605	0	94.68	5.32	WA	unnamed
2	O/Lam/GHA/2012 (KF305227)	GHA12-AA	639	600	0	93.90	6.10	WA	unnamed
3	O/TOG/1/2005	TOG05-01	639	598	0	93.58	6.42	WA	unnamed
4	O/TOG/3/2005	TOG05-03	639	598	0	93.58	6.42	WA	unnamed
5	O/TOG/4/2005	TOG05-04	639	598	0	93.58	6.42	WA	unnamed
6	O/BEN/28/2010* (KC832982)	BEN10-AN	639	593	0	92.80	7.20	WA	unnamed
7	O/BEN/32/2010* (KC832984)	BEN10-AP	639	593	0	92.80	7.20	WA	unnamed
8	O/BEN/1/2010* (KC832973)	BEN10-AA	639	592	0	92.64	7.36	WA	unnamed
9	O/BEN/14/2010* (KC832976)	BEN10-AD	639	592	0	92.64	7.36	WA	unnamed
10	O/BEN/2/2010* (KC832974)	BEN10-AB	639	592	0	92.64	7.36	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/CIV/8/99 (AJ303485)	CIV99-08	639	585	0	91.55	8.45	WA	unnamed
2	O/GHA/5/93 (AJ303488)	GHA93-05	639	560	0	87.64	12.36	WA	unnamed
3	O/K83/79* (AJ303511)	KEN79B83	638	544	1	85.27	14.73	EA-1	unnamed
4	O/SUD/2/86 (DQ165075)	SUD86-02	639	541	0	84.66	15.34	EA-3	unnamed
5	O/ETH/58/2005 (FJ798141)	ETH05-58	639	538	0	84.19	15.81	EA-4	unnamed
6	O/IND/53/79 (AF292107)	IND79A53	639	537	0	84.04	15.96	ME-SA	unnamed
7	O/UAE/4/2008	UAE08-04	636	534	0	83.96	16.04	ME-SA	Ind-2001c
8	O/KUW/3/97 (DQ164904)	KUW97-03	639	536	0	83.88	16.12	ME-SA	Ind-2001a
9	O/UGA/17/98 (HM211075)	UGA98-17	639	536	0	83.88	16.12	EA-4	unnamed
10	O/ETH/1/2007 (FJ798137)	ETH07-01	639	534	0	83.57	16.43	EA-3	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/8/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: KD/KCH/01	
Location: Kachia, Kaduna State, Nigeria	Topotype: EA-3
Date collected: 22/07/2011	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG11-08.SEQ
Date received for sequencing: 18/06/2014	Date sequence last updated: 24/06/2014
Species: Bovine	No. of Nt determined: 639
Material used: RS1 05/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 22 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/NIG/1/2011	NIG11-01	639	639	0	100.00	0.00	EA-3	unnamed
2	O/NIG/10/2011	NIG11-10	639	639	0	100.00	0.00	EA-3	unnamed
3	O/NIG/15/2009	NIG09-15	639	630	0	98.59	1.41	EA-3	unnamed
4	O/SUD/3/2005 (GU566058)	SUD05-03	639	602	0	94.21	5.79	EA-3	unnamed
5	O/SUD/1/2005 (GU566056)	SUD05-01	639	601	0	94.05	5.95	EA-3	unnamed
6	O/SUD/2/2005 (GU566057)	SUD05-02	639	601	0	94.05	5.95	EA-3	unnamed
7	O/NIG/1/2007	NIG07-01	639	594	0	92.96	7.04	EA-3	unnamed
8	O/SUD/3/2004 (GU566046)	SUD04-03	639	593	0	92.80	7.20	EA-3	unnamed
9	O/SUD/12/2004 (GU566049)	SUD04-12	639	592	0	92.64	7.36	EA-3	unnamed
10	O/SUD/14/2004 (GU566050)	SUD04-14	639	592	0	92.64	7.36	EA-3	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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	572	0	89.51	10.49	EA-3	unnamed
2	O/ETH/1/2007 (FJ798137)	ETH07-01	639	557	0	87.17	12.83	EA-3	unnamed
3	O/IND/53/79 (AF292107)	IND79A53	639	548	0	85.76	14.24	ME-SA	unnamed
4	O/GHA/5/93 (AJ303488)	GHA93-05	639	547	0	85.60	14.40	WA	unnamed
5	O/UGA/17/98 (HM211075)	UGA98-17	639	546	0	85.45	14.55	EA-4	unnamed
6	O/ETH/2/2006 (FJ798127)	ETH06-02	639	545	0	85.29	14.71	EA-3	unnamed
7	O/ETH/3/2004 (FJ798109)	ETH04-03	639	545	0	85.29	14.71	EA-3	unnamed
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	542	0	84.82	15.18	ME-SA	PanAsia
9	O/CIV/8/99 (AJ303485)	CIV99-08	639	541	0	84.66	15.34	WA	unnamed
10	O/K83/79* (AJ303511)	KEN79B83	638	540	1	84.64	15.36	EA-1	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/10/2011	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: PL/JS/001	
Location: Jos South, Plateau State, Nigeria	Topotype: EA-3
Date collected: 02/08/2011	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG11-10.SEQ
Date received for sequencing: 18/06/2014	Date sequence last updated: 20/06/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 05/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 22 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/NIG/1/2011	NIG11-01	639	639	0	100.00	0.00	EA-3	unnamed
2	O/NIG/8/2011	NIG11-08	639	639	0	100.00	0.00	EA-3	unnamed
3	O/NIG/15/2009	NIG09-15	639	630	0	98.59	1.41	EA-3	unnamed
4	O/SUD/3/2005 (GU566058)	SUD05-03	639	602	0	94.21	5.79	EA-3	unnamed
5	O/SUD/1/2005 (GU566056)	SUD05-01	639	601	0	94.05	5.95	EA-3	unnamed
6	O/SUD/2/2005 (GU566057)	SUD05-02	639	601	0	94.05	5.95	EA-3	unnamed
7	O/NIG/1/2007	NIG07-01	639	594	0	92.96	7.04	EA-3	unnamed
8	O/SUD/3/2004 (GU566046)	SUD04-03	639	593	0	92.80	7.20	EA-3	unnamed
9	O/SUD/12/2004 (GU566049)	SUD04-12	639	592	0	92.64	7.36	EA-3	unnamed
10	O/SUD/14/2004 (GU566050)	SUD04-14	639	592	0	92.64	7.36	EA-3	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
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	572	0	89.51	10.49	EA-3	unnamed
2	O/ETH/1/2007 (FJ798137)	ETH07-01	639	557	0	87.17	12.83	EA-3	unnamed
3	O/IND/53/79 (AF292107)	IND79A53	639	548	0	85.76	14.24	ME-SA	unnamed
4	O/GHA/5/93 (AJ303488)	GHA93-05	639	547	0	85.60	14.40	WA	unnamed
5	O/UGA/17/98 (HM211075)	UGA98-17	639	546	0	85.45	14.55	EA-4	unnamed
6	O/ETH/2/2006 (FJ798127)	ETH06-02	639	545	0	85.29	14.71	EA-3	unnamed
7	O/ETH/3/2004 (FJ798109)	ETH04-03	639	545	0	85.29	14.71	EA-3	unnamed
8	O/UKG/35/2001 (AJ539141)	UKG01-35	639	542	0	84.82	15.18	ME-SA	PanAsia
9	O/CIV/8/99 (AJ303485)	CIV99-08	639	541	0	84.66	15.34	WA	unnamed
10	O/K83/79* (AJ303511)	KEN79B83	638	540	1	84.64	15.36	EA-1	unnamed

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/4/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: AD/MDG/2012	
Location: Madagali, Adamawa State, Nigeria	Topotype: WA
Date collected: 03/08/2012	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG12-04.SEQ
Date received for sequencing: 30/06/2014	Date sequence last updated: 02/07/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 13/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 10 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/NIG/5/2012	NIG12-05	639	639	0	100.00	0.00	WA	unnamed
2	O/NIG/3/2014	NIG14-03	639	628	0	98.28	1.72	WA	unnamed
3	O/NIG/4/2014	NIG14-04	639	628	0	98.28	1.72	WA	unnamed
4	O/NIG/1/2014	NIG14-01	639	627	0	98.12	1.88	WA	unnamed
5	O/NIG/2/2014	NIG14-02	639	627	0	98.12	1.88	WA	unnamed
6	O/CAR/16/2000 (HM211080)	CAR00-16	639	562	0	87.95	12.05	WA	unnamed
7	O/CAR/17/2000 (HM211081)	CAR00-17	639	562	0	87.95	12.05	WA	unnamed
8	O/SUD/1/76	SUD76-01	639	560	0	87.64	12.36	WA	unnamed
9	O/MAI/1/2005	MAI05-01	639	559	0	87.48	12.52	WA	unnamed
10	O/MAI/2/2005	MAI05-02	639	559	0	87.48	12.52	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/CIV/8/99 (AJ303485)	CIV99-08	639	554	0	86.70	13.30	WA	unnamed
2	O/GHA/5/93 (AJ303488)	GHA93-05	639	553	0	86.54	13.46	WA	unnamed
3	O/PAK/16/2003 (DQ165068)	PAK03-16	639	546	0	85.45	14.55	ME-SA	Pak-98
4	O/SUD/2/86 (DQ165075)	SUD86-02	639	545	0	85.29	14.71	EA-3	unnamed
5	O/IND/53/79 (AF292107)	IND79A53	639	540	0	84.51	15.49	ME-SA	unnamed
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	540	0	84.51	15.49	ME-SA	Ind-2001a
7	O/ETH/1/2007 (FJ798137)	ETH07-01	639	539	0	84.35	15.65	EA-3	unnamed
8	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	539	0	84.35	15.65	ME-SA	unnamed
9	O/K83/79* (AJ303511)	KEN79B83	638	537	1	84.17	15.83	EA-1	unnamed
10	O/UAE/4/2008	UAE08-04	636	535	0	84.12	15.88	ME-SA	Ind-2001c

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/5/2012	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: AD/SH/6	
Location: Shuwa, Adamawa State, Nigeria	Topotype: WA
Date collected: 03/08/2012	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG12-05.SEQ
Date received for sequencing: 30/06/2014	Date sequence last updated: 02/07/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy2 20/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 10 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/NIG/4/2012	NIG12-04	639	639	0	100.00	0.00	WA	unnamed
2	O/NIG/3/2014	NIG14-03	639	628	0	98.28	1.72	WA	unnamed
3	O/NIG/4/2014	NIG14-04	639	628	0	98.28	1.72	WA	unnamed
4	O/NIG/1/2014	NIG14-01	639	627	0	98.12	1.88	WA	unnamed
5	O/NIG/2/2014	NIG14-02	639	627	0	98.12	1.88	WA	unnamed
6	O/CAR/16/2000 (HM211080)	CAR00-16	639	562	0	87.95	12.05	WA	unnamed
7	O/CAR/17/2000 (HM211081)	CAR00-17	639	562	0	87.95	12.05	WA	unnamed
8	O/SUD/1/76	SUD76-01	639	560	0	87.64	12.36	WA	unnamed
9	O/MAI/1/2005	MAI05-01	639	559	0	87.48	12.52	WA	unnamed
10	O/MAI/2/2005	MAI05-02	639	559	0	87.48	12.52	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/CIV/8/99 (AJ303485)	CIV99-08	639	554	0	86.70	13.30	WA	unnamed
2	O/GHA/5/93 (AJ303488)	GHA93-05	639	553	0	86.54	13.46	WA	unnamed
3	O/PAK/16/2003 (DQ165068)	PAK03-16	639	546	0	85.45	14.55	ME-SA	Pak-98
4	O/SUD/2/86 (DQ165075)	SUD86-02	639	545	0	85.29	14.71	EA-3	unnamed
5	O/IND/53/79 (AF292107)	IND79A53	639	540	0	84.51	15.49	ME-SA	unnamed
6	O/KUW/3/97 (DQ164904)	KUW97-03	639	540	0	84.51	15.49	ME-SA	Ind-2001a
7	O/ETH/1/2007 (FJ798137)	ETH07-01	639	539	0	84.35	15.65	EA-3	unnamed
8	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	539	0	84.35	15.65	ME-SA	unnamed
9	O/K83/79* (AJ303511)	KEN79B83	638	537	1	84.17	15.83	EA-1	unnamed
10	O/UAE/4/2008	UAE08-04	636	535	0	84.12	15.88	ME-SA	Ind-2001c

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)



# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/1/2014	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: PL/JS/KA/1	
Location: Kara, Plateau State, Nigeria	Topotype: WA
Date collected: 03/01/2014	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG14-01.SEQ
Date received for sequencing: 30/06/2014	Date sequence last updated: 02/07/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 25/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 10 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/NIG/2/2014	NIG14-02	639	639	0	100.00	0.00	WA	unnamed
2	O/NIG/3/2014	NIG14-03	639	638	0	99.84	0.16	WA	unnamed
3	O/NIG/4/2014	NIG14-04	639	638	0	99.84	0.16	WA	unnamed
4	O/NIG/4/2012	NIG12-04	639	627	0	98.12	1.88	WA	unnamed
5	O/NIG/5/2012	NIG12-05	639	627	0	98.12	1.88	WA	unnamed
6	O/CAR/16/2000 (HM211080)	CAR00-16	639	560	0	87.64	12.36	WA	unnamed
7	O/CAR/17/2000 (HM211081)	CAR00-17	639	560	0	87.64	12.36	WA	unnamed
8	O/NIG/3/2011	NIG11-03	639	551	0	86.23	13.77	WA	unnamed
9	O/CAR/28/2005	CAR05-28	639	550	0	86.07	13.93	WA	unnamed
10	O/CAR/3/2005	CAR05-03	639	550	0	86.07	13.93	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/GHA/5/93 (AJ303488)	GHA93-05	639	546	0	85.45	14.55	WA	unnamed
2	O/CIV/8/99 (AJ303485)	CIV99-08	639	544	0	85.13	14.87	WA	unnamed
3	O/SUD/2/86 (DQ165075)	SUD86-02	639	538	0	84.19	15.81	EA-3	unnamed
4	O/KEN/5/2002 (DQ165073)	KEN02-05	639	536	0	83.88	16.12	EA-2	Unnamed
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	536	0	83.88	16.12	ME-SA	Pak-98
6	O/UAE/4/2008	UAE08-04	636	532	0	83.65	16.35	ME-SA	Ind-2001c
7	O/KUW/3/97 (DQ164904)	KUW97-03	639	534	0	83.57	16.43	ME-SA	Ind-2001a
8	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	534	0	83.57	16.43	ME-SA	unnamed
9	O/IND/53/79 (AF292107)	IND79A53	639	533	0	83.41	16.59	ME-SA	unnamed
10	O/BHU/3/2009	BHU09-03	639	532	0	83.26	16.74	ME-SA	Ind-2001d

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)



# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/2/2014	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: PL/JS/KA/2	
Location: Kara, Plateau State, Nigeria	Topotype: WA
Date collected: 03/01/2014	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG14-02.SEQ
Date received for sequencing: 08/07/2014	Date sequence last updated: 09/07/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 26/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 2 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/NIG/1/2014	NIG14-01	639	639	0	100.00	0.00	WA	unnamed
2	O/NIG/3/2014	NIG14-03	639	638	0	99.84	0.16	WA	unnamed
3	O/NIG/4/2014	NIG14-04	639	638	0	99.84	0.16	WA	unnamed
4	O/NIG/4/2012	NIG12-04	639	627	0	98.12	1.88	WA	unnamed
5	O/NIG/5/2012	NIG12-05	639	627	0	98.12	1.88	WA	unnamed
6	O/CAR/16/2000 (HM211080)	CAR00-16	639	560	0	87.64	12.36	WA	unnamed
7	O/CAR/17/2000 (HM211081)	CAR00-17	639	560	0	87.64	12.36	WA	unnamed
8	O/NIG/3/2011	NIG11-03	639	551	0	86.23	13.77	WA	unnamed
9	O/CAR/28/2005	CAR05-28	639	550	0	86.07	13.93	WA	unnamed
10	O/CAR/3/2005	CAR05-03	639	550	0	86.07	13.93	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/GHA/5/93 (AJ303488)	GHA93-05	639	546	0	85.45	14.55	WA	unnamed
2	O/CIV/8/99 (AJ303485)	CIV99-08	639	544	0	85.13	14.87	WA	unnamed
3	O/SUD/2/86 (DQ165075)	SUD86-02	639	538	0	84.19	15.81	EA-3	unnamed
4	O/KEN/5/2002 (DQ165073)	KEN02-05	639	536	0	83.88	16.12	EA-2	Unnamed
5	O/PAK/16/2003 (DQ165068)	PAK03-16	639	536	0	83.88	16.12	ME-SA	Pak-98
6	O/UAE/4/2008	UAE08-04	636	532	0	83.65	16.35	ME-SA	Ind-2001c
7	O/KUW/3/97 (DQ164904)	KUW97-03	639	534	0	83.57	16.43	ME-SA	Ind-2001a
8	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	534	0	83.57	16.43	ME-SA	unnamed
9	O/IND/53/79 (AF292107)	IND79A53	639	533	0	83.41	16.59	ME-SA	unnamed
10	O/BHU/3/2009	BHU09-03	639	532	0	83.26	16.74	ME-SA	Ind-2001d

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/3/2014	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: PL/KA/03	
Location: Kara, Plateau State, Nigeria	Topotype: WA
Date collected: 03/01/2014	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG14-03.SEQ
Date received for sequencing: 08/07/2014	Date sequence last updated: 09/07/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 26/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 2 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/NIG/4/2014	NIG14-04	639	639	0	100.00	0.00	WA	unnamed
2	O/NIG/1/2014	NIG14-01	639	638	0	99.84	0.16	WA	unnamed
3	O/NIG/2/2014	NIG14-02	639	638	0	99.84	0.16	WA	unnamed
4	O/NIG/4/2012	NIG12-04	639	628	0	98.28	1.72	WA	unnamed
5	O/NIG/5/2012	NIG12-05	639	628	0	98.28	1.72	WA	unnamed
6	O/CAR/16/2000 (HM211080)	CAR00-16	639	561	0	87.79	12.21	WA	unnamed
7	O/CAR/17/2000 (HM211081)	CAR00-17	639	561	0	87.79	12.21	WA	unnamed
8	O/NIG/3/2011	NIG11-03	639	552	0	86.38	13.62	WA	unnamed
9	O/CAR/28/2005	CAR05-28	639	551	0	86.23	13.77	WA	unnamed
10	O/CAR/3/2005	CAR05-03	639	551	0	86.23	13.77	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/GHA/5/93 (AJ303488)	GHA93-05	639	547	0	85.60	14.40	WA	unnamed
2	O/CIV/8/99 (AJ303485)	CIV99-08	639	545	0	85.29	14.71	WA	unnamed
3	O/SUD/2/86 (DQ165075)	SUD86-02	639	539	0	84.35	15.65	EA-3	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	537	0	84.04	15.96	ME-SA	Pak-98
5	O/UAE/4/2008	UAE08-04	636	533	0	83.81	16.19	ME-SA	Ind-2001c
6	O/KEN/5/2002 (DQ165073)	KEN02-05	639	535	0	83.72	16.28	EA-2	Unnamed
7	O/KUW/3/97 (DQ164904)	KUW97-03	639	535	0	83.72	16.28	ME-SA	Ind-2001a
8	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	535	0	83.72	16.28	ME-SA	unnamed
9	O/IND/53/79 (AF292107)	IND79A53	639	534	0	83.57	16.43	ME-SA	unnamed
10	O/BHU/3/2009	BHU09-03	639	533	0	83.41	16.59	ME-SA	Ind-2001d

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# FAO World Reference Laboratory for FMD Genotyping Report

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

Page 1 of 1

Serotype: O	Report date: 10/07/2014
WRLFMD Ref No: NIG/4/2014	Reported by: N.J. Knowles
Batch No: WRLFMD/2014/00016	Checked by: K. Bachanek-Bankowska
Sender Ref: PL/KA/4/14	
Location: Kara, Plateau State, Nigeria	Topotype: WA
Date collected: 14/01/2014	Genotype/strain: unnamed
Date received by WRLFMD: 11/04/2014	Sequence filename: NIG14-04.SEQ
Date received for sequencing: 08/07/2014	Date sequence last updated: 09/07/2014
Species: Bovine	No. of Nt determined: 639
Material used: BTy1 26/06/2014	No. of ambiguities: 0
Region sequenced: VP1	Gene length: 639
RT-PCR primers: O-1C244F/EUR-2B52R	Total no. of comparisons: 3901
O-1C272F/EUR-2B52R	Min. no. of nt for comparison: 600
	Total turn-around time: 90 days
	Sequencing time: 2 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/NIG/3/2014	NIG14-03	639	639	0	100.00	0.00	WA	unnamed
2	O/NIG/1/2014	NIG14-01	639	638	0	99.84	0.16	WA	unnamed
3	O/NIG/2/2014	NIG14-02	639	638	0	99.84	0.16	WA	unnamed
4	O/NIG/4/2012	NIG12-04	639	628	0	98.28	1.72	WA	unnamed
5	O/NIG/5/2012	NIG12-05	639	628	0	98.28	1.72	WA	unnamed
6	O/CAR/16/2000 (HM211080)	CAR00-16	639	561	0	87.79	12.21	WA	unnamed
7	O/CAR/17/2000 (HM211081)	CAR00-17	639	561	0	87.79	12.21	WA	unnamed
8	O/NIG/3/2011	NIG11-03	639	552	0	86.38	13.62	WA	unnamed
9	O/CAR/28/2005	CAR05-28	639	551	0	86.23	13.77	WA	unnamed
10	O/CAR/3/2005	CAR05-03	639	551	0	86.23	13.77	WA	unnamed
Most Closely Related Reference Viruses									
(see <a href="http://www.wrlfmd.org/fmd_genotyping/prototypes.htm">http://www.wrlfmd.org/fmd_genotyping/prototypes.htm</a> )									
Pos.	Virus name	Filename	No. nt comp.	No. nt match.	No. of ambig.	% Id.	% Diff.	Topotype	Strain
1	O/GHA/5/93 (AJ303488)	GHA93-05	639	547	0	85.60	14.40	WA	unnamed
2	O/CIV/8/99 (AJ303485)	CIV99-08	639	545	0	85.29	14.71	WA	unnamed
3	O/SUD/2/86 (DQ165075)	SUD86-02	639	539	0	84.35	15.65	EA-3	unnamed
4	O/PAK/16/2003 (DQ165068)	PAK03-16	639	537	0	84.04	15.96	ME-SA	Pak-98
5	O/UAE/4/2008	UAE08-04	636	533	0	83.81	16.19	ME-SA	Ind-2001c
6	O/KEN/5/2002 (DQ165073)	KEN02-05	639	535	0	83.72	16.28	EA-2	Unnamed
7	O/KUW/3/97 (DQ164904)	KUW97-03	639	535	0	83.72	16.28	ME-SA	Ind-2001a
8	O1/Manisa/TUR/69 (AY593823)	TUR69--G	639	535	0	83.72	16.28	ME-SA	unnamed
9	O/IND/53/79 (AF292107)	IND79A53	639	534	0	83.57	16.43	ME-SA	unnamed
10	O/BHU/3/2009	BHU09-03	639	533	0	83.41	16.59	ME-SA	Ind-2001d

nt, nucleotides

\*, not a WRLFMD reference number

Assembled with Report Generator v4.3

© The Pirbright Institute (not to be reproduced without permission)

# Report on FMDV O in Nigeria in 2011-2014

Batch: WRLFMD/2014/00016

◆ 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

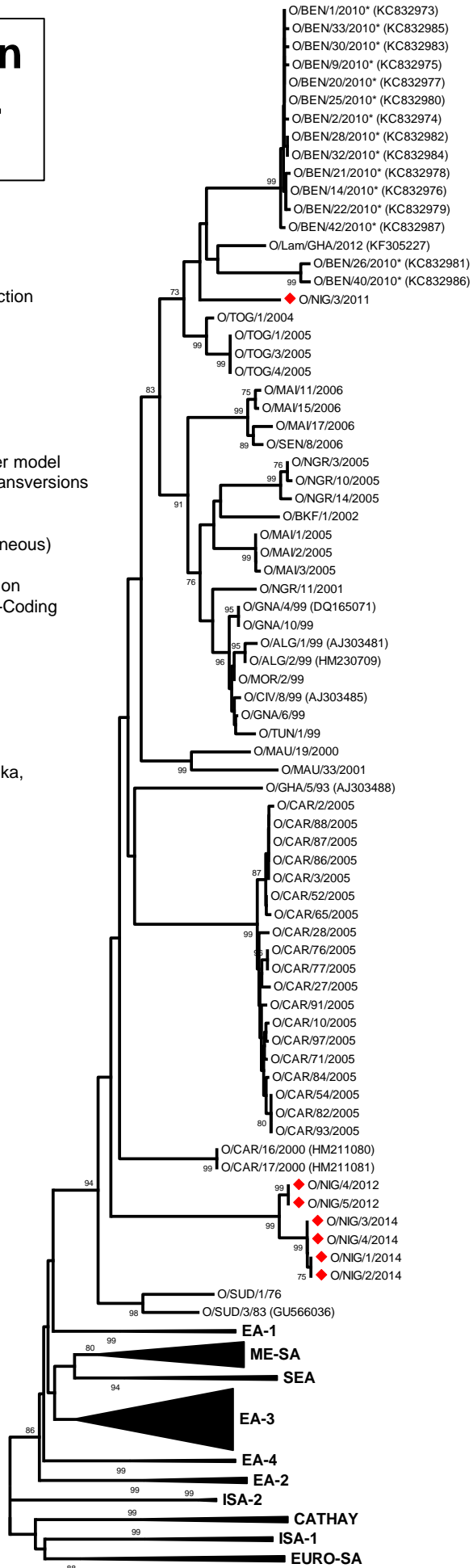
Only bootstrap values of 70% and above are shown

\*, not a WRLFMD Ref. No.

N.J. Knowles, J. Wadsworth & K. Bachanek-Bankowska,  
10 July 2014

© The Pirbright Institute

(not to be reproduced without permission)



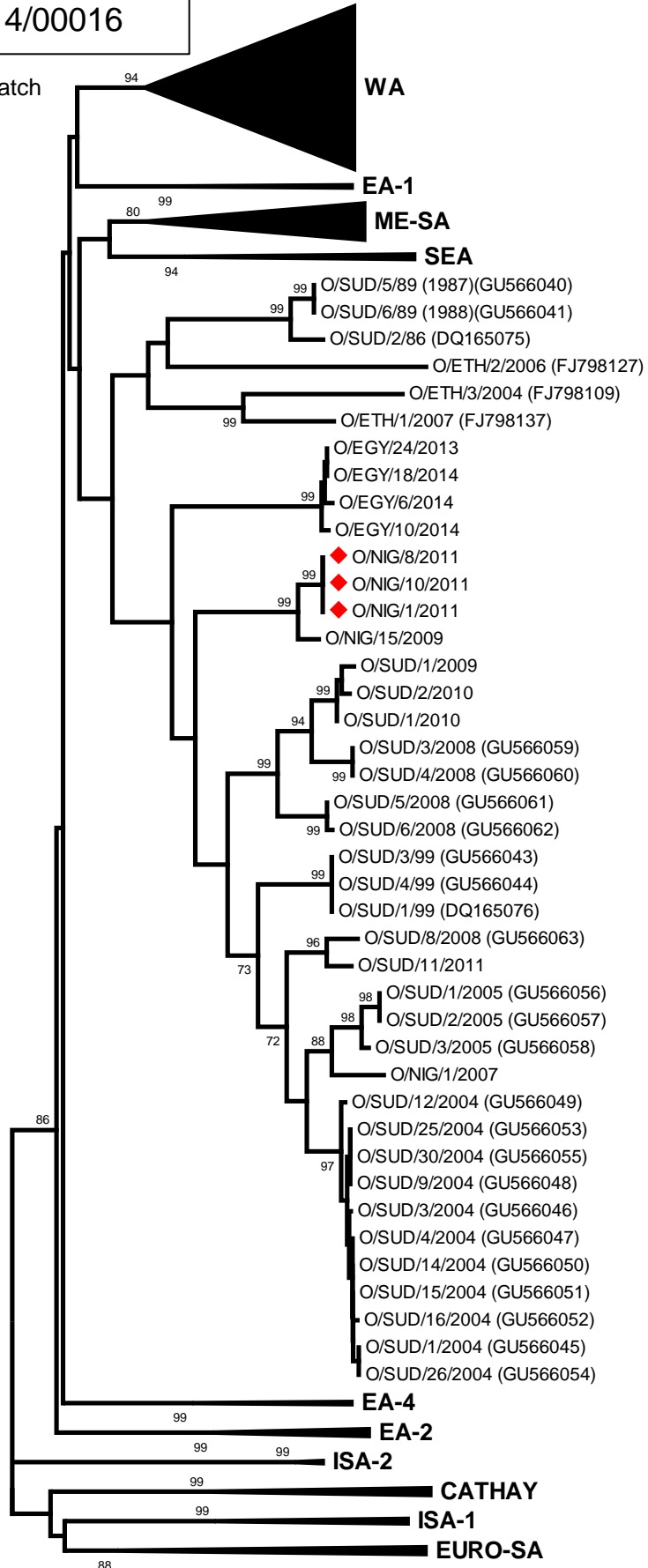
WA

0.02

# Report on FMDV O in Nigeria in 2011-2014

Batch: WRLFMD/2014/00016

◆ indicates viruses in this batch



EA-3

0.02