

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

Genotyping Report

FMDV serotype: O
Country: Hong Kong SAR
Year: 2018
Batch: WRLFMD/2018/00014
No. of sequences: 3
Report date: 3rd May 2018
Report generated by: Nick Knowles
Report checked by: Kasia Bankowska



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

email: reporting@pirbright.ac.uk

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Virus sample name:	HKN/4/2018
Sender reference:	18-02684-03
Location of origin:	98 Ki Lun Shan, San Tin, Yuen Long, New Territories
Country of origin:	Hong Kong SAR
Date of collection:	28/02/2018
Host species:	porcine
Serotype:	O
Topotype:	CATHAY
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	LFBK1
Harvest date of material:	25/04/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	30/04/2018
Created:	03/05/2018
Last updated:	03/05/2018
VIBASys IDs: sample 36382, genome 36383, sequence viba_36384, sequencing info 36385	

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_35658	HKN/11/2017	porcine	98.6	0	O	CATHAY		
viba_35662	HKN/12/2017	porcine	98.4	0	O	CATHAY		
viba_34913	HKN/3/2017	porcine	98.3	0	O	CATHAY		
viba_34909	HKN/1/2017	porcine	98.3	0	O	CATHAY		
viba_35918	HKN/5/2017	porcine	98.3	0	O	CATHAY		
viba_35654	HKN/8/2017	porcine	98.1	0	O	CATHAY		
viba_30088	HKN/7/2016	porcine	98.1	0	O	CATHAY		
viba_34917	HKN/4/2017	porcine	98.1	0	O	CATHAY		
viba_30072	HKN/3/2016	porcine	97.9	0	O	CATHAY		
viba_30084	HKN/6/2016	porcine	97.8	0	O	CATHAY		

Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_418	PHI/7/96	porcine	87.2	0	O	CATHAY		
viba_480	Yunlin/TAW/97	porcine	86.9	0	O	CATHAY		
viba_584	HKN/6/83	bovine	85.0	2	O	CATHAY		
viba_325	HKN/21/70	porcine	81.9	2	O	CATHAY		
viba_617	IND/53/79	bovine	79.5	0	O	ME-SA		
viba_850	NEP/1/2015	cattle	79.2	1	O	ME-SA	PanAsia-2	KAT-15
viba_50	UGA/17/98		79.0	0	O	EA-4		
viba_221	MAL/1/98		78.9	0	O	EA-2		
viba_518	ISA/1/62		78.6	0	O	ISA-1		
viba_238	ISA/8/83	bovine	78.6	0	O	ISA-1		

Virus sample name:	HKN/5/2018
Sender reference:	18-03003-01
Location of origin:	98 Ki Lun Shan, San Tin, Yuen Long, New Territories
Country of origin:	Hong Kong SAR
Date of collection:	07/03/2018
Host species:	porcine
Serotype:	O
Topotype:	CATHAY
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS1
Harvest date of material:	21/04/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	30/04/2018
Created:	03/05/2018
Last updated:	03/05/2018

VIBASys IDs: sample 36386, genome 36387, sequence viba_36388, sequencing info 36389

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36392	HKN/6/2018	porcine	100.0	0	O	CATHAY		
viba_35658	HKN/11/2017	porcine	98.9	0	O	CATHAY		
viba_34913	HKN/3/2017	porcine	98.3	0	O	CATHAY		
viba_34909	HKN/1/2017	porcine	98.3	0	O	CATHAY		
viba_35918	HKN/5/2017	porcine	98.3	0	O	CATHAY		
viba_30088	HKN/7/2016	porcine	98.1	0	O	CATHAY		
viba_34917	HKN/4/2017	porcine	98.1	0	O	CATHAY		
viba_30072	HKN/3/2016	porcine	97.9	0	O	CATHAY		
viba_30084	HKN/6/2016	porcine	97.8	0	O	CATHAY		
viba_35662	HKN/12/2017	porcine	97.8	0	O	CATHAY		

Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_480	Yunlin/TAW/97	porcine	87.8	0	O	CATHAY		
viba_418	PHI/7/96	porcine	87.5	0	O	CATHAY		
viba_584	HKN/6/83	bovine	85.0	2	O	CATHAY		
viba_325	HKN/21/70	porcine	82.0	2	O	CATHAY		
viba_617	IND/53/79	bovine	79.7	0	O	ME-SA		
viba_238	ISA/8/83	bovine	79.5	0	O	ISA-1		
viba_50	UGA/17/98		79.4	0	O	EA-4		
viba_221	MAL/1/98		79.2	0	O	EA-2		
viba_518	ISA/1/62		79.0	0	O	ISA-1		
viba_850	NEP/1/2015	cattle	78.9	1	O	ME-SA	PanAsia-2	KAT-15

Virus sample name:	HKN/6/2018
Sender reference:	18-03003-02
Location of origin:	98 Ki Lun Shan, San Tin, Yuen Long, New Territories
Country of origin:	Hong Kong SAR
Date of collection:	07/03/2018
Host species:	porcine
Serotype:	O
Topotype:	CATHAY
Lineage:	
Sublineage:	
Sequence length:	633
Ambiguities:	0
Material submitted for sequencing:	RS1
Harvest date of material:	22/04/2018
Primers:	O-1C244F/EUR-2B52R; O-1C272F/EUR-2B52R
Received for sequencing:	30/04/2018
Created:	03/05/2018
Last updated:	03/05/2018

VIBASys IDs: sample 36390, genome 36391, sequence viba_36392, sequencing info 36393

Most Closely Related Sequences

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_36388	HKN/5/2018	porcine	100.0	0	O	CATHAY		
viba_35658	HKN/11/2017	porcine	98.9	0	O	CATHAY		
viba_34913	HKN/3/2017	porcine	98.3	0	O	CATHAY		
viba_34909	HKN/1/2017	porcine	98.3	0	O	CATHAY		
viba_35918	HKN/5/2017	porcine	98.3	0	O	CATHAY		
viba_30088	HKN/7/2016	porcine	98.1	0	O	CATHAY		
viba_34917	HKN/4/2017	porcine	98.1	0	O	CATHAY		
viba_30072	HKN/3/2016	porcine	97.9	0	O	CATHAY		
viba_30084	HKN/6/2016	porcine	97.8	0	O	CATHAY		
viba_35662	HKN/12/2017	porcine	97.8	0	O	CATHAY		

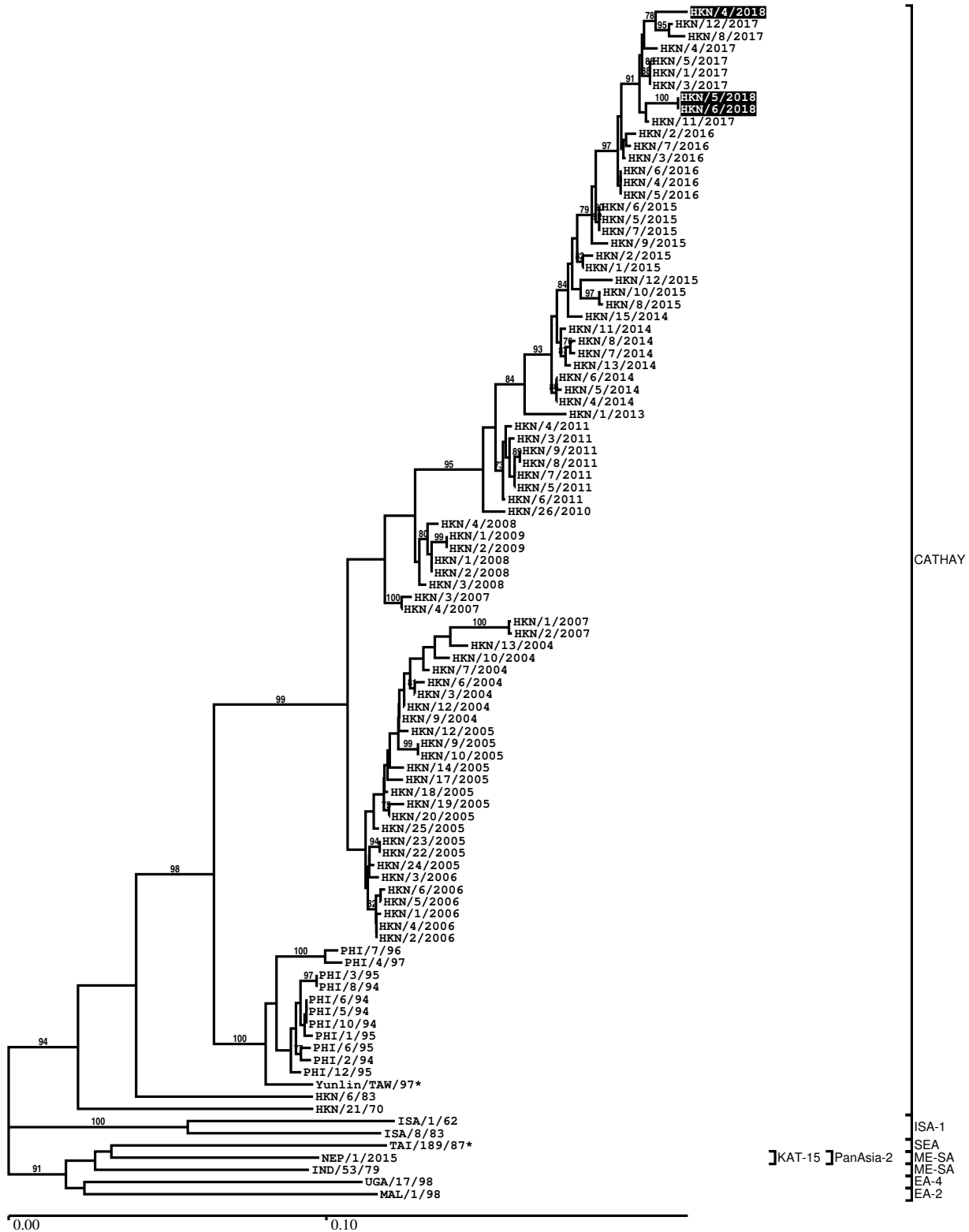
Most Closely Related Prototype Sequences

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

sequence	virus name	Host	% Id.	# Ambig.	serotype	topotype	lineage	sublineage
viba_480	Yunlin/TAW/97	porcine	87.8	0	O	CATHAY		
viba_418	PHI/7/96	porcine	87.5	0	O	CATHAY		
viba_584	HKN/6/83	bovine	85.0	2	O	CATHAY		
viba_325	HKN/21/70	porcine	82.0	2	O	CATHAY		
viba_617	IND/53/79	bovine	79.7	0	O	ME-SA		
viba_238	ISA/8/83	bovine	79.5	0	O	ISA-1		
viba_50	UGA/17/98		79.4	0	O	EA-4		
viba_221	MAL/1/98		79.2	0	O	EA-2		
viba_518	ISA/1/62		79.0	0	O	ISA-1		
viba_850	NEP/1/2015	cattle	78.9	1	O	ME-SA	PanAsia-2	KAT-15

Report on FMDV O in Hong Kong SAR in 2018

Batch: WRLFMD/2018/00014



*, not a WRLFMD Reference Number

Analysis Parameters

VP1 subsequence extractor: vp1_O
 Query sequence set: WRLFMD/2018/00014-Hong Kong SAR-O (3 sequences)
 Sequence database set: allseqs_O (3761 sequences)
 Prototype sequence set: !prototypes_O (48 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: 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
HKN/4/2018	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/12/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/8/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2018	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2018	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/11/2017	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/2/2016	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/7/2016	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2016	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2016	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2016	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2016	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/7/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/9/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/2/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/12/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/10/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/8/2015	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/15/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/11/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/8/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/7/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/13/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2014	n/a	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2013	KM243172	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2011	KM243166	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2011	KM243165	porcine	WRLFMD	Hong Kong SAR	CATHAY

continued on next page

label	accession	host(s)	lab	country	taxonomic information
HKN/9/2011	KM243171	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/8/2011	KM243170	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/7/2011	KM243169	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2011	KM243167	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2011	KM243168	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/26/2010	KM243164	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2008	KM243158	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2009	KM243159	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/2/2009	KM243160	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2008	KM243155	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/2/2008	KM243156	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2008	KM243157	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2007	KM243152	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2007	KM243153	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2007	KM243150	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/2/2007	KM243151	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/13/2004	KM243126	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/10/2004	DQ164887	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/7/2004	DQ164884	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2004	DQ164883	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2004	DQ164881	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/12/2004	DQ164889	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/9/2004	DQ164886	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/12/2005	KM243132	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/9/2005	KM243129	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/10/2005	KM243130	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/14/2005	KM243133	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/17/2005	KM243135	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/18/2005	KM243136	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/19/2005	KM243137	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/20/2005	KM243138	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/25/2005	KM243143	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/23/2005	KM243141	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/22/2005	KM243140	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/24/2005	KM243142	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/3/2006	KM243146	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/6/2006	KM243149	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/5/2006	KM243148	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/1/2006	KM243144	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/4/2006	KM243147	porcine	WRLFMD	Hong Kong SAR	CATHAY
HKN/2/2006	KM243145	porcine	WRLFMD	Hong Kong SAR	CATHAY
PHI/7/96	AJ294926	porcine	WRLFMD	Philippines	CATHAY
PHI/4/97	KM243061	porcine	WRLFMD	Philippines	CATHAY
PHI/3/95	KM243043	porcine	WRLFMD	Philippines	CATHAY
PHI/8/94	KM243037	porcine	WRLFMD	Philippines	CATHAY
PHI/6/94	KM243036	porcine	WRLFMD	Philippines	CATHAY
PHI/5/94	KM243035	porcine	WRLFMD	Philippines	CATHAY
PHI/10/94	KM243038	porcine	WRLFMD	Philippines	CATHAY
PHI/1/95	KM243041	porcine	WRLFMD	Philippines	CATHAY
PHI/6/95	KM243044	porcine	WRLFMD	Philippines	CATHAY
PHI/2/94	KM243034	porcine	WRLFMD	Philippines	CATHAY
PHI/12/95	KM243048	porcine	WRLFMD	Philippines	CATHAY
Yunlin/TAW/97*	AF308157	porcine	PIADC	Taiwan	CATHAY
HKN/6/83	AJ294919	bovine	WRLFMD	Hong Kong SAR	CATHAY
HKN/21/70	AJ294911	porcine	WRLFMD	Hong Kong SAR	CATHAY
ISA/1/62	AJ303500	n/a	WRLFMD	Indonesia	ISA-1
ISA/8/83	AJ303503	bovine	WRLFMD	Indonesia	ISA-1
TAI/189/87*	KY091288	bovine	TRRL	Thailand	SEA
NEP/1/2015	n/a	cattle	WRLFMD	Nepal	ME-SA/PanAsia-2/KAT-15
IND/53/79	AF292107	bovine	PD-FMD	India	ME-SA
UGA/17/98	HM211075	n/a	WRLFMD	Uganda	EA-4
MAL/1/98	DQ165074	n/a	WRLFMD	Malawi	EA-2

*, not a WRLFMD Reference Number

n/a, not available