

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 24 avril 2023 16:41

Laboratory Information

Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Foot and Mouth Disease
Address of laboratory:	Ash Road, Pirbright, Woking, Surrey, GU24 0NF, UNITED KINGDOM
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Website:	https://www.pirbright.ac.uk
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Bryan Charleston, Director, The Pirbright Institute
Name (including Title and Position) of WOA Reference Expert:	Dr Donald King, Head of Vesicular Disease Reference Laboratory
Which of the following defines your laboratory? Check all that apply:	Academic institution

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
ELISA - NSP	Yes	20	997
ELISA - SP	Yes	0	976

VNT	Yes	0	5375
Vaccine matching	Yes	0	356
Direct diagnostic tests		Nationally	Internationally
Virus isolation	Yes	23	265
Antigen ELISA	Yes	23	178
Real-time RT-PCR	Yes	149	530
VP1 sequencing	Yes	0	164
Phylogenetic analyses	Yes	0	176

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOA?H?

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TESTING	PRODUCED/ IMPORTED	QUANTITY SUPPLIED NATIONWIDE (ML, MG)	QUANTITY SUPPLIED AT INTERNATIONAL LEVEL (ML, MG)	NAME OF BENEFICIARY WOA?H MEMBER COUNTRIES
FMDV antigens, FMDV antisera and serum controls	VNT and ELISA (Serology)	Produced	10-100mL	> 500mL	EGYPT IRAQ ITALY KOREA (REP. OF) NAMIBIA POLAND SAUDI ARABIA THAILAND UNITED STATES OF AMERICA VIETNAM

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA?H Members?

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOA?H MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
FMDV-specific monoclonal antibodies	ELISA	Produce		15.5 ml	2	Asia and Pacific Europe
Cell lines for FMDV culture	VI and VNT	PROVIDE		18 ml	1	Europe
FMD virus isolates	Vaccine matching	PROVIDE	414 ml		1	Europe

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA?H Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
Antigen lateral flow test	https://pubmed.ncbi.nlm.nih.gov/35458515/

7. Did your laboratory validate diagnostic methods according to WOAHS Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAHS Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAHS Members?

Yes

NAME OF WOAHS MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
ALGERIA	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	5
BOTSWANA	2022-02-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	1
ETHIOPIA	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	48
INDONESIA	2022-06-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	6
ISRAEL	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	10
JORDAN	2021-12-20	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	13
MALAWI	2022-03-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	2
MONGOLIA	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	17
NAMIBIA	2022-04-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine	0	4

		Matching		
PAKISTAN	2022-02-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	57
THAILAND	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	16
TUNISIA	2022-03-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	3
SUDAN	2022-06-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	40
UNITED ARAB EMIRATES	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	15
ZAMBIA	2022-03-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	3
PALESTINIAN AUTON. TERRITORIES	2022-05-01	rRT-PCR, VI, Ag-ELISA, VP1 sequencing, Vaccine Matching	0	12
TUNISIA	2022-01-01	VP1 analyses	0	15
RUSSIA	2022-01-01	VP1 analyses	0	1
KAZAKHSTAN	2022-02-01	VP1 analyses	0	1
ISRAEL	2022-03-01	VP1 analyses	0	7
INDONESIA	2022-05-01	VP1 analyses	0	37
MALAYSIA	2022-06-01	VP1 analyses	0	14
NIGERIA	2022-10-01	VP1 analyses	0	5

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA Member?

Yes

NAME OF THE WOA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
INDONESIA	Participated in EMC mission in June 2022	Meetings with ministry officials, visits to laboratories and vaccine producer

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Characterization of FMDV strains	6 months	Full genome sequencing	DIC Wates and Pusvetma	INDONESIA

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

Epidemiological data are included in diagnostic reports returned to sender and country's WOA representative

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

20

DOI: 10.1111/tbed.14561., DOI: 10.3390/v14051009., DOI: 10.1111/tbed.14562., DOI: 10.3390/v13122433., DOI: 10.3390/v14061161., DOI: 10.1111/tbed.14564., DOI: 10.3390/v14040835., DOI: 10.3389/fvets.2022.1027006., DOI: 10.3390/v14030621., DOI: 10.14202/vetworld.2022.524-530., DOI: 10.3390/v14081820., DOI: 10.3389/fvets.2022.1029075., DOI: 10.3390/v14071495., DOI: 10.1186/s13567-022-01076-3., DOI: 10.1111/tbed.14611., DOI: 10.1111/tbed.14472., DOI: 10.3390/v14040714., DOI: 10.3390/v14010097., DOI: 10.1371/journal.ppat.1010589., DOI: 10.3390/v14040785

b) International conferences:

11

c) National conferences:

0

d) Other (Provide website address or link to appropriate information):

Website: www.wrlfmd.org

Website: www.foot-and-mouth.org/

twitter account: <https://twitter.com/WRLFMD>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

Yes

a) Technical visit : 4

b) Seminars : >100

c) Hands-on training courses: 4

d) Internships (>1 month) 1

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	India	1
A	Republic of Korea	1
A	Nigeria	1
B	Indonesia	300
B	Global (e-learning)	100
B	Southeast Asia	100
C	Greece	1
C	Israel	1
C	Austria	1
C	Botswana	1
D	Botswana	1
A	Niger	1

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO/IEC 17025:2017	Testing schedule	Pirbright UKAS testing Schedule 2022.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Virus Isolation	United Kingdom Accreditation Service
RT-PCR	United Kingdom Accreditation Service
Ag-ELISA	United Kingdom Accreditation Service
VNT	United Kingdom Accreditation Service
NSP ELISA	United Kingdom Accreditation Service

SP-ELISA	United Kingdom Accreditation Service
Disinfectant testing	United Kingdom Accreditation Service

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

All work with FMDV is undertaken in high containment facilities licensed by the UK HSE

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?H?

Yes

NATIONAL/ INTERNATIONAL	TITLE OF EVENT	CO-ORGANISER	DATE (MM/YY)	LOCATION	NO. PARTICIPANTS
	Quality control of FMD vaccines in Africa	AU-PANVAC, Ethiopia	2022-11-01	Bishoftu, Ethiopia	16
	Annual meeting of the WOA?H/FAO FMD Reference Laboratory Network	WBVR, The Netherlands	2022-11-29	Lelystad, The Netherlands	35

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?H?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
4th East Africa roadmap meeting for the control of FMD	2022-03-29	Virtual	Speaker	Regional update
3rd Regional Expert Group meeting for SEACFMD	2022-06-02	Virtual	Speaker	FMD diagnostics and contingency planning
National coordinators meeting of SEACFMD	2022-10-01	Bali, Indonesia	Speaker	Regional risks and vaccines

TOR10: NETWORK WITH WOA?H REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOA?H Reference Laboratories designated for the same pathogen or disease?

Yes

24. Are you a member of a network of WOA?H Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA?H REF. LABS/ ORGANISING WOA?H REF. LAB.
WOA?H/FAO Laboratory Network for FMD	Secretariat	20	Further details: https://www.foot-and-mouth.org/

25. Did you organise or participate in inter-laboratory proficiency tests with WOA Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS/ ORGANISING WOA REF. LAB.
FMD diagnostics methods (virology and serology)	Organiser	12	Argentina, Brazil, Canada, France, Belgium, Botswana, Italy, Russia, South Africa, South Korea, USA, UK
FMD/SVD Diagnostic methods	Participant	unknown	ANSES, France

26. Did your laboratory collaborate with other WOA Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Yes

TITLE OF THE PROJECT OR CONTRACT	SCOPE	NAME(S) OF RELEVANT WOA REFERENCE LABORATORIES
Molecular epidemiology of FMD in Asia	Collection of sequence data and phylogenetic analyses	APQA, Republic of Korea
IZSLER/Pirbright collaboration	Development of immunoassays for vesicular diseases	IZSLER, Italy
Calibration of VNT methods	To compare VNT methods used in different laboratories	IZSLER, Italy, Sciensano, Belgium

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOA Member Countries
FMDV diagnostics (virology and serology)	Organizer	40	Africa America Asia and Pacific Europe MiddleEast

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOA?

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)

Presentation to Scientific Committee for Animal Diseases	Virtual	Global update on FMD
Providing advice	Virtual	contributed to a meeting organized by WOAHP with Indonesia Government Officials regarding recent FMD outbreaks in the country on 8th May 2022
Ad-hoc committee	Paris	Contributed to the review of dossiers from 5 countries applying for official WOAHP FMD status

29. Additional comments regarding your report: