

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 5 avril 2023 16:58

Laboratory Information

Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Foot and mouth disease
Address of laboratory:	Av. Governador Leonel de Moura Brizola, 7778, CEP 25045-002, São Bento, Duque de Caxias, RJ, BRAZIL
Tel.:	+55 21 3661 9064
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Website:	www.paho.org/en/panaftosa
Name (including Title) of Head of Laboratory (Responsible Official):	Ottorino Cosivi, Veterinarian, Director Pan American Center for Foot and Mouth Disease - PANAFTOSA-PAHO/WHO
Name (including Title and Position) of WOA Reference Expert:	Edviges Maristela Pituco, Veterinarian (PhD), Head of Reference Laboratory of Pan American Center for Foot and Mouth Disease – PANAFTOSA-PAHO/WHO
Which of the following defines your laboratory? Check all that apply:	International Organisation/PANAFTOSA-PAHO/WHO

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
Direct diagnostic tests		Nationally	Internationally
RT-PCR	yes		30

Virus neutralization	yes		24
Sequencing	yes		3

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
Kit NCPanaftosa ELISA I-3ABC	FMD NSP antibodies detection	produced		> 500mL	BRAZIL
Kit ELISA FMD gIII	FMD NSP antibodies detection	produced		> 500mL	ARGENTINA BOLIVIA BRAZIL COLOMBIA ECUADOR GUYANA KOREA (REP. OF) PARAGUAY PERU URUGUAY
NCPanaftosa EITB	FMD NSP antibodies detection	produced		> 500mL	BRAZIL CANADA COLOMBIA ECUADOR KOREA (REP. OF) PARAGUAY PERU URUGUAY
Ag Typing ELISA	FMDV/VSV Antigen Typing	produced		> 500mL	ARGENTINA BRAZIL CHILE COLOMBIA ECUADOR PARAGUAY PERU
LPBE ELISA (ELISA CFL)	FMD SP antibodies detection	produced		> 500mL	ARGENTINA BRAZIL COLOMBIA PARAGUAY PERU URUGUAY
Cell lines	Vaccine production	produced		< 10mL	ARGENTINA BRAZIL
Reference standard	Molecular biology	produced		100-500mL	ARGENTINA CHILE COLOMBIA ECUADOR PERU
Bovine sera	Antibodies detections	produced		10-100mL	COLOMBIA
Viral seeds	Vaccine production	produced		< 10mL	PARAGUAY
Reference sera	NSP antibodies test	produced		10-100mL	COLOMBIA ECUADOR GUYANA

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

No

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?

No

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHP 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
CHILE	2022-05-19	Virus neutralization	6	
CHILE	2022-05-19	RT-qPCR	12	
CHILE	2022-05-19	Sequencing	3	

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

Yes

NAME OF THE WOAHP MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
IRAN	Technical support	Technical advice at distance
BOLIVIA	Technical support	Technical visit at laboratory
COLOMBIA	Technical support	Technical advice at distance
ECUADOR	Technical support	Technical advice at distance
VENEZUELA	Support on the vaccination program, surveillance and other technical subjects	Technical support on the field, and at distance

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHP MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
		Inactivation of vesicular		

Performance of reagents in inactivating foot-and-mouth disease virus in field epithelium samples: a comparison between six commercial products.	2 years	disease viruses in cattle for safe processing in low biocontainment laboratories. Increase the capillarity of diagnosis of foot-and-mouth disease in large countries.	Ministry of Agriculture, Livestock and Food Supply	BRAZIL
Detection of 3ABC protein in various age groups and with multiple vaccinations.	5 years	Evaluate vaccine purification (withdrawn of the FMDV nonstructural protein).	Biological Institute of São Paulo - IBSP	BRAZIL
Post-vaccination immune response monitoring.	5 years	Monitor post-vaccination immune response in primovaccinated. Evaluate vaccine effectiveness at the field level in the different age groups in the vaccination schedule proposed by Brazilian legislation (350 animals).	Biological Institute of São Paulo - IBSP	BRAZIL
Validation and determination of sensitivity and specificity of rapid tests for FMD antigen detection.	3 years	Technical collaboration between Panaftosa and the Ministry of Agriculture, Livestock and Food Supply for the validation and determination of the sensitivity and specificity of the existing commercial (rapid) tests for the viral strains isolated in South America, as well as for the main serotypes circulating in the world.	Ministry of Agriculture, Livestock and Food Supply	BRAZIL

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:

Using the Interface for Official Veterinary Surveillance (IVVO), an online information system to support official veterinary surveillance (passive and active) of animal diseases at national and regional levels, Panaftosa collects epizootiological data from countries in the region and performs their epidemiological analysis to guide the next actions against FMD in the context of each country's Action Plan.

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:

The data are disseminated at the annual meeting with all the countries members of Cosalfa. The 49th Ordinary Meeting of the South American Commission for the Fight Against Foot-and-Mouth Disease (COSALFA 49) was held on August 25th and 26th as a virtual event. In the meeting was analyzed the advance of the countries regarding the Action Plan 2021-2025 of the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA). All data collected regarding vesicular diseases were presented on COSALFA 49: <https://www.paho.org/es/panaftosa/cosalfa/cosalfa-49>

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:

2

1 - Bennett, B., Urzúa-Encina, C., Pardo-Roa, C., Ariyama, N., Lecocq, C., Rivera, C., Badía, C., Suárez, P., Agredo, M., Aguayo, C., Ávila, C., Araya, H., Pérez, P., Berrios, F., Agüero, B., Mendieta, V., Pituco, E. M., de Almeida, I. G., Medina, R., . . . Ramirez, V. N. (2022). First report and genetic characterization of Seneca Valley virus (SVV) in Chile. *Transboundary and Emerging Diseases*, 1–7. <https://doi.org/10.1111/tbed.14747>

2 - Rivera AM, Sanchez-Vazquez MJ, Pituco EM, Buzanovsky LP, Martini M and Cosivi O (2023) Advances in the eradication of foot-and-mouth disease in South America: 2011–2020. *Front. Vet. Sci.* 9:1024071. doi: 10.3389/fvets.2022.1024071

b) International conferences:

9

1- Guilherme Marques - PRE-COSALFA 49. BANCACO Regional Bank for the Americas to support the PHEFA - Virtual meeting, 23rd - 24th August 2022. <https://www.youtube.com/watch?v=xMMpOKOvX08>

2- Manuel Sánchez Vázquez - COSALFA 49. Resoluciones y Cooperación Técnica con países - Virtual meeting, 25th - 26th August 2022. https://www.paho.org/sites/default/files/aftosa-cosalfa49-informe-secretaria-msanchez_0.pdf - Informe de Secretaria ex officio.

3- Anna Paula Alvim - COSALFA 49. Informe Laboratorio de Producción - Virtual meeting, 25th - 26th August 2022. <https://www.youtube.com/watch?v=zHmVy4dLrL0>

4- Edviges Maristela Pituco - COSALFA 49. Laboratorio de Referencia - Virtual meeting, 25th - 26th August 2022. https://www.paho.org/sites/default/files/aftosa-cosalfa49-informe-labreferencia-mpituco-esp_0.pdf

5- Manuel Sánchez Vázquez - COSALFA 49. Informe de Situación de los Programas de Erradicación de la Fiebre Aftosa, en Sudamérica y Panamá en 2021 - Virtual meeting, 25th - 26th August 2022.

6- Guilherme Marques - Informe del Seminario Internacional - Pre COSALFA 49 - Virtual meeting, 25th - 26th August 2022. https://www.paho.org/sites/default/files/aftosa-cosalfa49-informeseminario-gmarques_0.pdf

7- Ottorino Cosivi - Plan de Cooperación Técnica Bienal 2022-2023 de PANAFTOSA - Virtual meeting, 25th - 26th August 2022. <https://iris.paho.org/handle/10665.2/56486>

8 - Ottorino Cosivi - Resoluciones aprobadas de la COSALFA 49 - Virtual meeting, 25th - 26th August 2022.

<https://iris.paho.org/handle/10665.2/56501>

9 - Edviges Maristela Pituco - Presentation: State of Art: Virologia Veterinaria: Updates and advances in the control of foot-and-mouth disease in Brazil. - XVII Encontro de Virologia do Mercosul e XXXIII Congresso Brasileiro de Virologia - 17th-21st October 2022 - Brazil

c) National conferences:

1

1 - Edviges Maristela Pituco - Presentation: State of Art: Virologia Veterinaria: Updates and advances in the control of foot-and-mouth disease in Brazil. - XXXIII Congresso Brasileiro de Virologia - 17th-21st October, 2022 - Brazil

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

0

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 2

b) Seminars : 0

c) Hands-on training courses: 1593

d) Internships (>1 month) 0

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
c	Argentina	1
a	Indonésia	2
c	Brazil	882
c	Brazil	184
c	Paraguay	1
c	Brazil	25
c	Colombia	100
c	Ecuador	200
c	Brazil	200

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	

ABNT NBR ISO/IEC 17025:2017	Certificado_CRL 1309 PANAFTOSA 28-06-21.pdf	Certificado_CRL 1309 PANAFTOSA 28-06-21.pdf
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19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
I-ELISA 3ABC	CGCRE/INMETRO - Brazil
ELISA 3ABC (block)	CGCRE/INMETRO - Brazil
EITB	CGCRE/INMETRO - Brazil
ELISA CFL	CGCRE/INMETRO - Brazil
Typing ELISA	CGCRE/INMETRO - Brazil
Virus neutralization	CGCRE/INMETRO - Brazil
RT-PCR	CGCRE/INMETRO - Brazil
RT-qPCR	CGCRE/INMETRO - Brazil

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

Yes

The laboratory follows procedures to identify, map, control, monitor and mitigate possible risks that may affect its activities. Risks are identified by area and classified in relation to priority and impact, and treated according to the classification in which they were placed.

TOR9: SCIENTIFIC MEETINGS

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

No

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

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
17th Annual Meeting OIE/FAO Reference Laboratories	2022-11-29	Lelystad, the Netherlands/Virtual	Speaker	Laboratory Panaftosa - Annual Report 2022
2nd Meeting of Global Coordination Committee on Foot and Mouth Disease (GCC-FMD)	2022-04-12	Rome, Italy	Speaker	Objectives and role of the GCC-FMD
2nd Meeting of Global Coordination Committee on Foot and Mouth Disease (GCC-FMD)	2022-04-12	Rome, Italy	Speaker	Wrap-up (summary) and next steps for the GCC-FMD
2nd Meeting of Global Coordination Committee on Foot and Mouth Disease (GCC-FMD)	2022-04-12	Rome, Italy	Moderator	-----

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

Yes

24. Are you a member of a network of 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.
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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 antigen detection test	participant	35	Organized by The Pirbright Institute/UK
FMD molecular biology test	participant	29	Organized by The Pirbright Institute/UK
FMD NSP antibody detection test	participant	37	Organized by The Pirbright Institute/UK
FMD SP antibody detection test	participant	30	Organized by The Pirbright Institute/UK
FMD SP antibody detection test	organiser	17	APHIS (USA), SENASA (Argentina), NCFAD (Canada)
FMD molecular biology test	organiser	16	APHIS (USA), SENASA (Argentina), NCFAD (Canada)
FMD antigen detection test	organiser	17	APHIS (USA), SENASA (Argentina), NCFAD (Canada)
FMD NSP antibody detection test	organiser	15	APHIS (USA), SENASA (Argentina), NCFAD (Canada)

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?

No

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
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FMD antigen detection

FMD antigen detection tests	organizer	15	America
FMD molecular biology tests	organizer	16	America
FMD NSP antibody detection tests	organizer	17	America
FMD SP antibody detection tests	organizer	17	America
FMD SP antibody detection tests	participant	17	America

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Advisor	Paris	Evaluation of requests for maintenance or change of sanitary status

29. Additional comments regarding your report:

Yes

The system to write the report is very unstable, so, some of the answers may have been erased.