

# WOAH Reference Laboratory Reports Activities 2023

## Activities in 2023

This report has been submitted : 12 juillet 2024 04:32

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOA Reference Laboratory:</b>	Babesiosis
<b>Address of laboratory:</b>	Carretera Cuernavaca Cuautla #8534 Colonia Progreso CB 62550, Jiutepec Morelos
<b>Tel.:</b>	+52-777 3.19.02.02
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<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Rosario Quezada Delgado. Director
<b>Name (including Title and Position) of WOA Reference Expert:</b>	Juan Mosqueda, MVZ, PhD. WOA representative
<b>Which of the following defines your laboratory? Check all that apply:</b>	Governmental Research agency

### 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	
		Nationally	Internationally
<b>Indirect diagnostic tests</b>			
Indirect Immuno-fluorescence test (IFAT)		75	0
ELISA		43	0
<b>Direct diagnostic tests</b>			
		Nationally	Internationally
Microscopy analysis of Giemsa-stained blood smears		418	0
Microscopy analysis of Giemsa-stained tick hemolymph smears		3160	0

### TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAHA Members?

Not applicable

### 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 WOAHA 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 WOAHA Standards for the designated pathogen or disease?

No

### TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

Yes

NAME OF THE WOAHA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
ITALY	Request on new ELISA test for babesiosis	We agreed to run an interlaboratory test for the new ELISA test.

### TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

13. In exercising your activities, have you identified any regulatory research needs\* relevant for WOAHA?

No

### TOR6: EPIZOOLOGICAL DATA

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

No

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:

Obtained information on the presence of antibodies to specific antigens in Babesia bigemina

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:

1

10. JUAN MOSQUEDA, DIEGO JOSIMAR HERNANDEZ-SILVA, MASSARO W. UETI, ADOLFO CRUZ-RESÉNDIZ, RICARDO MARQUEZ-CERVANTEZ, URIEL MAURICIO VALDEZ-ESPINOZA, MINH-ANH DANG-TRINH, THU-THUY NGUYEN, MINERVA CAMACHO-NUEZ, MIGUEL ANGEL MERCADO-URIOSTEGUI, GABRIELA AGUILAR-TIPACAMÚ, JUAN ALBERTO RAMOS-ARAGON, RUBEN HERNANDEZ-ORTIZ, SHIN-ICHIRO KAWAZU, AND IKUO IGARASHI. SPHERICAL BODY PROTEIN 4 FROM BABESIA BIGEMINA: A NOVEL GENE THAT CONTAINS CONSERVED B-CELL EPITOPES AND INDUCES CROSS-REACTIVE NEUTRALIZING ANTIBODIES IN BABESIA OVATA. PATHOGENS 2023, 12, 495. <https://doi.org/10.3390/pathogens12030495>.

b) International conferences:

0

c) National conferences:

0

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 WOAHO Members?

No

## TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO-9001	PDF	1 - Renovación CENAPA. ISO 9001.pdf
ISO-17025	PDF	3 - 20LP3460_SA_Anexo Técnico 17025.pdf
ISO-17043	PDF	5 - Anexo técnico 20EA0035 - 17043.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
accredited as a Proficiency Testing/Test Provider under the NMX-EC-17043-IMNC-2010 ISO/IEC 17043:2010 standard. General requirements for aptitude tests for the Testing Laboratories Area.	Mexican accreditation entity
Accredited as a Testing Laboratory in accordance with the requirements established in the NMX-EC-17025-IMNC- standard 2018 (ISO/IEC 17025:2017), for the evaluation activities of the conformity in the conformity assessment scheme (Programme evaluation) of: Agricultural Health	Mexican accreditation entity

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

Yes

The Laboratory follows the indications of the Quality management system guidances.

## TOR9: SCIENTIFIC MEETINGS

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

Yes

NATIONAL/ INTERNATIONAL	TITLE OF EVENT	CO-ORGANISER	DATE (MM/YY)	LOCATION	NO. PARTICIPANTS
International	International Symposium "Ticks, a vector of veterinary interest and innovation for its control"	Autonomous University of Queretaro, SENASICA, WOAHO	2023-10-18	Faculty of natural Sciences	70

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

Yes

			Role (speaker,	Title of the
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Title of event	Date (mm/yy)	Location	presenting poster, short communications)	work presented
National Meeting of the Mexican Veterinary Parasitology Association.	2023-09-27	Veracruz, Mexico	Speaker	Control de la babesiosis: nuevas soluciones a un problema viejo
International Babesiosis Meeting	2023-04-15	New Heaven, USA	Speaker	Bovine babesiosis: An overview
IX Refresher Course on the National Campaign for the prevention and control of Rabies in cattle and livestock species	2023-12-06	Guanajuato, Mexico	Speaker	Diagnostico diferencial de la rabia y babesiosis
XV Annual Conference of the Argentine Association of Veterinary Immunology	2023-11-03	Santa Fe, Argentina	Speaker	La proteína tumoral controlada traduccionalmente (TCTP) de Babesia bovis contiene epítomos B neutralizantes, y la vacunación de bovinos mejora la respuesta inmune humoral
USDA-ARS Grand Challenge Workshop: Integrated Approaches for the Control of Ticks and Tick-borne Diseases of Livestock	2023-03-08	McAllen, Texas, USA	Speaker	Research experiences on ticks and tick-borne pathogens in the Immunology and Vaccines Research Group of the Autonomous University of Queretaro in Mexico
29th International Conference of the World Association for the Advancement of Veterinary Parasitology	2023-08-22	Chennai, India	Speaker	The translationally controlled tumor protein (TCTP) of Babesia bovis participates in the establishment of an acute infection and contains B-cell epitopes that induce neutralizing antibodies
29th molecular biology workshop and XIX Parasite Molecular Research Forum	2023-08-03	Nagasaki, Japan	Speaker	Molecular and immunoinformatics strategies for the development of vaccines against bovine babesiosis and the cattle tick Rhipicephalus microplus
UNAM FMVZ Series Seminars	2023-03-14	Mexico City, Mexico	Speaker	Quimeras multiepitópicas: una plataforma para el desarrollo de vacunas y métodos de detección contra patógenos causantes de enfermedad

## TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

Yes

24. Do you network (collaborate or share information) with other WOAHP Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
Babesiosis	Participant	2	Italy, Mexico

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

No

26. Did your laboratory collaborate with other WOAHP 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 WOAHP REFERENCE LABORATORIES
Studies on Babesia genes as vaccine for bovine babesiosis control	To characterize antigens from Babesia species that can be targets for vaccine or diagnostics.	Prof. Naoaki Yokoyama is Japan's reference laboratory for bovine babesiosis.

## TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the Test	WOAH Member Countries
Regional interlaboratory test by simultaneous comparison for the detection of parasitic phases of <i>Anaplasma marginale</i> , <i>Babesia bigemina</i> and <i>Babesia bovis</i> in bovine blood by the direct smear method	Organizer	4	The direct smear method	GUATEMALA, MEXICO, NICARAGUA,

## TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

*This year we had some interlaboratory proficiency tests with Nicaragua and El Salvador and two laboratories in Mexico.*