WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 26 avril 2023 11:16

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Babesiosis
Address of laboratory:	Istituto Zooprofilattico Sperimentale della Sicilia (IZSSi), via Gino Marinuzzi 3, 90129, Palermo ITALY
Tel.:	+39-091 656.5235
E-mail address:	valeria.blanda@izssicilia.it
Website:	www.izssicilia.it
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Salvatore Seminara, General manager Istituto Zooprofilattico Sperimentale della Sicilia
Name (including Title and Position) of WOAH Reference Expert:	Valeria Blanda (Dr., PhD, Researcher)
Which of the following defines your laboratory? Check all that apply:	Governmental

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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Babesia bovis IFI	yes	9	0
Babesia caballi IFI	yes	28	32

Babesia caballi ELISA	yes	0	32
Babesia canis IFI	no	7	0
Babesia bigemina ELISA	yes	6	0
Direct diagnostic tests		Nationally	Internationally
PCR Babesia bigemina (rap1)	yes	15	0
PCR Babesia bovis (rap1)	yes	13	0
PCR Babesia caballi (BC48)	yes	4	32
Babesia spp. Theileria spp. Reverse Line Blot	yes	12	77
Babesia canis PCR	no	2	0
Babesia spp. PCR	yes	12	77
Babesia microti PCR	no	0	60

TOR2: REFERENCE MATERIAL

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

No

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAH MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Babesia caballi Positive control	PCR	provided	0	2 mL	1	Europe
Babesia caballi Positive control serum	IFAT	provided	0	2 mL	1	Europe
Babesia caballi positive control serum	ELISA	provided	0	2 mL	1	Europe
Babesia caballi Negative control	PCR	provided	0	4 mL	1	Europe
Babesia caballi negative control serum	IFI	provided	0	4 mL	1	Europe
Babesia caballi negative control serum	ELISA	provided	0	4 mL	1	Europe
Babesia bigemina positive control DNA	PCR	produced				
Babesia bovis positive control	IFI	produced				

serum						
Babesia spp. positive control	PCR	produced				

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH 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.)
1. Development of a biomolecular test for the determination simultaneous analysis of equine Tick Borne Pathogens 2. ELISA diagnostic test for cattle babesiosis	1. Report for Ministry of Health Research project RC IZS SI 07/18 2. Vet Ital. 2016 Jan-Mar;52(1):63-9. doi: 10.12834/VetIt.74.237.2. A promising new ELISA diagnostic test for cattle babesiosis based on Babesia bigemina Apical Membrane Antigen-1. Torina A1, Cordaro A, Blanda V, D'Agostino R, Scimeca S,Scariano ME, Sireci G, Lelli R. DOI:10.12834/VetIt.74.237.2

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

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAH 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
MALAWI	2022-02-25	Babesia spp. Reverse Line Blot	77	77
THE NETHERLANDS	2022-11-29	Babesia caballi PCR	32	32
MALAWI	2022-02-25	Babesia spp. PCR	77	77
THE NETHERLANDS	2022-11-29	Babesia caballi IFI	32	32

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

Yes

NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
THE NETHERLANDS	Recommendation for serological and molecular tests for the detection of B. gibsoni	Consultation via e-mail
ZIMBABWE	Information on diagnostic techniques for zoonotic agents transmitted by vectors and contacts for the internship at the center	Consultation and matherials provided via e-mail
AUSTRIA	Information of in-vitro culture of Babesia species	Consultation via e-mail
CROATIA	Consultancies on molecular biology-based methods for Babesia pathogens and matherial exchange	Consultation provided via e-mail
AUSTRIA	Training in technical aspects regarding tick borne diseases for researchers from Zimbabwe	Information provided by e-mail
BELGIUM	Recommendation for serological tests for the detection of B. gibsoni	Consultation and matherials provided via e-mail
THE NETHERLANDS	Information on diagnostic tests for Babesia caballi for validation of a field test	Consultation via e-mail and organization of a joint study
SOUTH AFRICA	Purpose of sharing diagnostic tools and organizing proficiency tests	Consultation via e-mail

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAH 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
Immune Response to Tick-Borne Pathogens	24 months	Studies on defense mechanis to eliminate invading microorganisms	SaBio, Instituto de Investigación en Recursos Cinegéticos IREC-CSICUCLM- JCCM, Ronda de Toledo s/n, 13005 Ciudad Real, Spain	SPAIN
Immune Response to Tick-Borne Pathogens	24 months	Studies on defense mechanis to eliminate invading microorganisms	Department of Veterinary Pathobiology, Center for Veterinary Health Sciences, Oklahoma State University, Stillwater, OK 74078, USA	UNITED STATES OF AMERICA
			Biochemistry Section,	

Immune Response to Tick-Borne Pathogens	24 months	Studies on defense mechanis to eliminate invading microorganisms	Regional Centre for Biomedical Research (CRIB), Faculty of Science and Chemical Technologies, University of Castilla-La Mancha, 45071 Toledo, Spain	SPAIN
Equine piroplasmosis field test validation	24 months	Validation of a field test for equinee piroplasmosis and comparison with other serological methods	TBD International BV Ramstraat 39 3581 HE Utrecht The Netherlands	THE NETHERLANDS
Tick borne pathogens in Hyalomma lusitanicum ticks	12 months	Presence of tick born pathogens in Hyalomma lusitanicum ticks	INIA-CSIC Ctra. de La Coruña, km 7, 5, 28040 Madrid, Spain	SPAIN
One Health approach to tick and tick- borne diseases at human/domestic and wildlife interfaces in Malawi	12 months	Investigation on TBDs and ixodid tick di-versity at human-domestic-wildlife interfaces in Malawi.	African Union – Centre for Tick and Tick Borne Diseases (CTTBD)	MALAWI

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:
TBPs prevalence in ticks and animals from Malawi; Tick Borne Pathogens in Parma Province; Molecular investigation of zoonotic pathogens in native species of bats; Investigation of disease hazards in cattle in South of Italy (Sicily); Pilot application in epidemiological field of a biomolecular test for the simultaneous determination of Equine Tick Borne Pathogens.

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:
TBPs prevalence in ticks and animals from Malawi; Tick Borne Pathogens in Parma Province; Molecular investigation of zoonotic pathogens in native species of bats; Investigation of disease hazards in cattle in South of Italy (Sicily); Pilot application in epidemiological field of a biomolecular test for the simultaneous determination of Equine Tick Borne Pathogens.

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:

3
Artigas-Jerónimo S, González-García A, de la Fuente J, Blanda V, Shekarkar Azgomi M, Villar M, Mohammadnezhad L, Grippi F, Torina A, Sireci G. Low NETosis Induced in Anaplasma phagocytophilum-Infected Cells. Vaccines (Basel). 2022 Oct 20;10(10):1756. doi: 10.3390/vaccines10101756.

El Tigani-Asil ETA, Blanda V, Abdelwahab GE, Hammadi ZMA, Habeeba S, Khalafalla AI, Alhosani MA, La Russa F, Migliore S, Torina A, Loria GR, Al Muhairi SS. Molecular Investigation on Tick-Borne Hemoparasites and Coxiella burnetii in Dromedary Camels (Camelusdromedarius) in Al Dhafra Region of Abu Dhabi, UAE. Animals (Basel). 2021 Mar 2;11(3):666. doi: 10.3390/ani11030666.

Audino T, Pautasso A, Bellavia V, Carta V, Ferrari A, Verna F, Grattarola C, Iulini B, Pintore MD, Bardelli M, Cassina G, Tomassone L, Peletto S, Blanda V, Torina A, Caramelli M, Casalone C, Desiato R. Ticks infesting humans and associated pathogens: a cross-sectional study in a 3-year period (2017-2019) in northwest Italy. Parasit Vectors. 2021 Mar 5;14(1):136. doi: 10.1186/s13071-021-04603-x.

b) International conferences:

2
Piroplasmosis of cattle, 31st World Buiatrics Congress, IFEMA Palacio Municipal (Madrid), Spain, 4th-8th September, 2022. Oral Presentation

Federico Cangialosi, Marco Martini, Valeria Blanda, Rosalia D'Agostino, Francesca Grippi, Salvatore Scimeca, Valeria Gargano, Francesco La Russa, Alessandra Torina. "Tick species characterization and Anaplasma spp. detection in different areas of a Sicilian Natural Park (South Italy)", presentato al Tick and Tick-Borne Pathogen Conference (TTP.10), svoltosi a Murighiol (Romania), 29 Agosto- 2 Settembre 2022.

c) National conferences:

2
Giusi Macaluso, Valeria Blanda, Rosalia D'Agostino, Ilenia Giacchino, Francesco Mira, Rosario Grasso, Maria Foti, Francesca Grippi, Alessandra Torina, Annalisa Guercio. "Indagine molecolare di patogeni zoonotici in specie native di chirotteri", presentato al XXI CONGRESSO NAZIONALE SIDILV, svoltosi ad Ischia (NA), 7-9 Settembre 2022.

Anaplasma marginale: studio di un focolaio in provincia di Parma, Presentato al 54°Congresso Nazionale della Società Italiana di Buiatria (SIB), 6-7 Ottobre 2022, Piacenza, Lodi

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

1 Webinar
Invited Speaker for the European College of Small Ruminant Health Management (ECSRHM), Webinar "Babesia spp. in small ruminants", 16 December 2022

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 : 2

b) Seminars : 0

c) Hands-on training courses: 5

d) Internships (>1 month) 2

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	The Netherlands	1
c	Germany	5
d	Spain	1
d	Argentina	1
a	Zimbabwe	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 17025	pdf	Certificato di Accreditamento n. 0246.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Babesia bigemina PCR	ACCREDIA
Babesia bovis PCR	ACCREDIA
Babesia microti PCR	ACCREDIA
Babesia caballi PCR	ACCREDIA
Babesia bovis IFI	ACCREDIA
Babesia canis IFI	ACCREDIA
Babesia caballi IFI	ACCREDIA

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

Yes

Legislative Decree n.81/2008

TOR9: SCIENTIFIC MEETINGS

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

No

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

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
30th Conference of the Regional Commission for Europe	2022-10-04	Catania	PRESENTING POSTER	
Webinar for the European College of Small Ruminant Health Management (ECSRHM).	2022-12-16	Webinar	Speaker	Babesia spp. in small ruminants
31st World Buiatrics Congress, IFEMA Palacio Municipal (Madrid), Spain	2022-09-08	Madrid	Speaker	Piroplasmosis of cattle
89th OIE General Session, May 2022	2022-05-23	Live webcast	Partecipant	

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

No

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

No

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

No

26. Did your laboratory collaborate with other WOAH 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 WOAH Reference Laboratories for the same pathogen?

No

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No