WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 21 février 2023 17:33

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Brucellosis (Brucella abortus, B. melitensis, B. suis)
Address of laboratory:	French Agency for Food, Environmental & Occupational Health & Safety (ANSES) Animal Health Laboratory - Bacterial Zoonoses Unit 14 rue Pierre et Marie Curie F-94701 Maisons-Alfort Cedex FRANCE
Tel.:	+33 (0)1 49 77 13 23
E-mail address:	claire.ponsart@anses.fr
Website:	www.anses.fr and https://eurl-brucellosis.anses.fr/
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Pascal BOIREAU, Director of the Animal Health Laboratory
Name (including Title and Position) of WOAH Reference Expert:	Dr Claire PONSART, Head of Bacterial Zoonoses Unit, ANSES
Which of the following defines your laboratory? Check all that apply:	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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Rose Bengal Test	YES	307	5
Complement Fixation Test	YES	332	40
i-ELISA (bovine serum)	YES	221	0

i-ELISA (bovine milk)	YES	78	0
i-ELISA (ovine/caprine serum)	YES	40	10
i-ELISA (pig serum)	YES	3	0
Microplate Agglutination Test (B. canis)	NO	580	16
Rapid Slide Agglutination Test (B. canis)	NO	47	0
Lateral Flow Immunoassay (B. canis)	NO	558	16
Direct diagnostic tests		Nationally	Internationally
Culture for Brucella isolation	YES	184	15
Brucella identification and biotyping (animal str.)	YES	41 isolated strains	0
Brucella sp. PCR on specimens	YES	1122	30
Brucella molecular typing (PCR HRM, WGS, MLVA)	YES	PCR HRM (35), WGS (14); 1 B.suis)	PCR HRM (7)
Official control of diagnostic antigen batches	YES	3 (RBT); 1(CFT)	3 (RBT, Belgium)
Official control of serum ELISA kit batches	YES	1	1 (Netherlands)
Official control of milk ELISA kit batches	YES	1	1 (Netherlands)
Official control of control sera batches	YES	2	0

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
National standard panel of positive sera	Diagnostic reagent batch control	PRODUCED	0	24 vials (1 ml)	3	Europe
National standard panel of negative sera	Diagnostic reagent batch control	PRODUCED	0	6 vials (1 ml)	2	MiddleEast
National RBT standard serum(BRU POS SE 01 eq. OIEISS)	RBT antigen batch control	PRODUCED	1 vial (1 ml)	6 vials (1 ml)	6	Asia and Pacific Europe

National CFT/SAT/MRT standard serum (BRU POS SE 02 eq. OIEISS)	CFT/SAT/MRT antigen batch control	PRODUCED	0	3 vials (1 ml)	3	Europe
National ELISA standard serum (BRU POS SE 03 eq OIEELISAspSS)	ELISA kits batch control	PRODUCED	0	11 vials (1 ml)	7	Asia and Pacific MiddleEast
European standard serum for pig brucellosis (EUPBSS)	ELISA kit batch control	PRODUCED	0	1 vials (1 ml)	1	Europe
European standard serum for dog brucellosis (EUDogSS)	antigen batch control	PRODUCED	3 vials (1 ml)	3 vials (1 ml)	4	Europe
European standard serum for sheep & goat brucellosis	antigen batch control	PRODUCED	0	6 vials (2 ml)	1	Europe
Brucella reference & field strains	antigen batch control	PRODUCED	0	3 vials (1 ml)	1	Europe
Phages	Brucella conventional Identification and typing	PRODUCED	0	7 vials (1 ml)	2	Asia and Pacific Europe
Anti-A, anti-M monospecific, anti-R and negative sera	Brucella conventional Identification and typing	PRODUCED	19 vials (1 ml)	10 vials (1 ml)	6	Africa Asia and Pacific Europe

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

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

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
	Microorganisms. 2022 Feb 1;10(2):336. doi: 10.3390/microorganisms10020336 High-Resolution Melting PCR as Rapid Genotyping Tool for Brucella Species Guillaume Girault, Ludivine Perrot, Virginie Mick, Claire Ponsart Description Brucella sp. are the causative agents of brucellosis. One of the main characteristics of the Brucella genus concerns its very high genetic homogeneity. To date,

High Resolution Melting PCR as rapid genotyping tool for Brucella species	classical bacteriology typing is still considered as the gold standard assay for direct diagnosis of Brucella. Molecular approaches are routinely used for the identification of Brucella at the genus level. However, genotyping is more complex, and to date, no method exists to quickly assign a strain into species and biovar levels, and new approaches are required. Next generation sequencing (NGS) opened a new era into the diagnosis of bacterial diseases. In this study, we designed a high-resolution melting (HRM) method for the rapid screening of DNA and direct assignment into one of the 12 species of the Brucella genus. This method is based on 17 relevant single nucleotide polymorphisms (SNPs), identified and selected from a whole genome SNP (wgSNP) analysis based on 988 genomes (complete and drafts). These markers were tested against the collection of the European Reference Laboratory (EU-RL) for brucellosis (1440 DNAs extracted from Brucella strains). The results confirmed the reliability of the panel of 17 SNP markers, allowing the differentiation of each species of Brucella together with biovars 1, 2, and 3 of B. suis and vaccine strain Rev1 (B. melitensis) within 3 h, which is a considerable gain of time for brucellosis diagnosis. Therefore, this genotyping tool provides a new and quick alternative for Brucella identification based on SNPs with the HRM-PCR assay. Keywords: Brucella; HRM-PCR; SNPs; identification.

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
DENMARK	2023-01-31	Complement fixation test	3	0
DENMARK	2023-03-31	Complement fixation test	3	0
DENMARK	2023-04-30	Complement fixation test	2	0
DENMARK	2023-06-30	Complement fixation test	4	0
DENMARK	2023-08-31	Complement fixation test	6	0
DENMARK	2023-10-25	Complement fixation test	7	0
DENMARK	2023-11-30	Complement fixation test	2	0
MOLDOVA	2023-02-25	Complement fixation test	0	3
AUSTRIA	2023-04-30	Complement fixation test	0	3
SWEDEN	2023-03-31	B. canis serology	0	1
SWEDEN	2023-04-30	B. canis serology	0	1
SWEDEN	2023-06-30	B. canis serology	0	1
CROATIA	2023-04-30	B. canis serology	0	1
CZECH REPUBLIC	2023-05-31	Complement fixation test	0	2

ICELAND	2023-08-31	B. canis serology	0	11
BULGARIA	2023-09-22	Real time PCR	30 (goat swabs, milk, organs)	0
ICELAND	2023-10-05	Bacteriology, real time PCR	2 (dog swabs)	0
MALTA	2023-11-24	Bacteriology, real time PCR	3 (goat cheeses)	0

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
ALBANIA	EVT2206226: National Training Course on the Important Animal and Zoonotic Diseases in the Country (Brucellosis, Clostridial infections / intoxications / enterotoxemias, protozoal and parasitic diseases)	1 week training in Girokaster & Tirana (21-25/11/2022
BOSNIA AND HERZEGOVINA	Education of veterinarians and farmers on the importance of brucellosis control in Bosnia and Herzegovina (EU Twinning project 2020/416-219)	1 week training in Bosnia & Herzegovina (12-16/12/2022
AZERBAIJAN GEORGIA TURKEY	Serological and Molecular approaches applied to Brucella; Interpretation of results	Training session (1 week meeting), proficiency test, monthly meetings, emails
GEORGIA	Laboratory Health and Safety practices, CoLLLab Delegation visit requested by partners	Prganisation, presentations and on-site visit of Animal Health Laboratory at ANSES
FINLAND	Interpretation of serological results	E-mails
BULGARIA	Diagnostic support in goat outbreak suspicion	E-mails
CYPRUS	Diagnostic support in outbreak investigations	E-mails, genomic analysis of strains

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
IDEMBRU (EU joint	3 years	Identification of emerging Brucella species: new threats for human and	APHA, ANSES, BfR, FLI, INIAV, INSA, IZSAM,	BULGARIA FRANCE GERMANY ITALY PORTUGAL THE

project)		animals	NDRVMI, WBVR	NETHERLANDS UNITED KINGDOM
Biosurveillance of Brucellosis in Azerbaijan, Georgia and Turkey	3 years		NAU (USA) +partners in the different countries	AZERBAIJAN GEORGIA TURKEY UNITED STATES OF AMERICA

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:
Contribution to ECDC - EFSA zoonoses report EFSA and ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control). 2022. The European Union One Health 2021 Zoonoses Report. EFSA Journal 2022; 20(12): 7666, 273 pp. https://doi.org/10.2903/j.efsa.2022.7666

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:
Contribution to ECDC - EFSA zoonoses report EFSA and ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control). 2022. The European Union One Health 2021 Zoonoses Report. EFSA Journal 2022; 20(12): 7666, 273 pp. https://doi.org/10.2903/j.efsa.2022.7666

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:

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Girault G, Perrot L, Mick V, Ponsart C. "High-Resolution Melting PCR as Rapid Genotyping Tool for Brucella Species", Microorganisms, 10:336, https://doi.org/10.3390/microorganisms10020336

Ferreira Vicente, A., M.S.R. Mioni, D.Q. Cagnini, M.G. Ribeiro, M.F. Arabe Filho, F.J.P. Listoni, B.L.D. Ribeiro, J. Megid. 2022. « Phenotypic and molecular identification of Brucella suis biotype 1 in a pig from brazil – case report. » Braz J Microbiol 53, 487–489. https://doi.org/10.1007/s42770-021-00607-y

b) International conferences:

12

Ponsart, C. 2022. « Brucella canis: Emergence of canine brucellosis due to infection with Brucella canis in different European countries. ».

27th Emerging risks exchange network meeting, Vienne, Autriche, 11 Mai 2022; https://www.efsa.europa.eu/en/events/27th-emerging-risks-exchange-network-meeting
Ponsart, C., F. De Massis, A.C. Ferreira, A. Koets, E. Lahti, J. Mc Given, F. Sacchini, A.M. Whatmore, G. Girault, L. Freddi, A. Ferreira Vicente, V. Djokic. 2022. EFSA EREN Briefing note on « Brucella canis: Emergence of canine brucellosis due to infection with Brucella canis in different European countries. » 27th Emerging risks exchange network meeting (EREN), Vienna, 11-12 May 2022.

Ponsart, C., A. Ferrreira Vicente, G. Girault, L. Freddi. 2022. 7e rencontre Animal Health Law. 17 Mai 2022.

Girault, G., A.F. Vicente, M. Ribeiro, L. Perrot, F. Petot-Bottin, L. Freddi, V. Djokic, C. Ponsart. 2022. « Canine Brucellosis in France due to Brucella canis: an emerging disease? » Brucellosis 2022 International Research Conference, Giulianova, Italy, 16 - 19 September 2022

Djokic, V., L. Freddi, A. F. Vicente, F. Petot-Bottin, L. Perrot, M. Ribeiro, C. Ponsart, G. Girault. 2022. « In silico pipeline for protein comparisons in Brucella genus. » Brucellosis 2022 International Research Conference, Giulianova, Italy, 16 - 19 September 2022

Ferreira Vicente, A., F. Petot-Bottin, G. Girault, V. Djokic, L. Freddi, L. Perrot, M. Ribeiro, C. Ponsart. 2022. « Cross-reaction comparative evaluation of five enzyme-linked immunosorbent assay and Golden Standard methods for porcine Brucellosis diagnosis. » Brucellosis 2022 International Research Conference, Giulianova, Italy, 16 - 19 September 2022

Freddi, L., V. Djokic, F. Petot-Bottin, G. Girault, L. Perrot, A. Ferreira Vicente, C. Ponsart. 2022. « Swab types and storage conditions affect Brucella recovery and DNA detection. » Brucellosis 2022 International Research Conference, Giulianova, Italy, 16 - 19 September 2022

Ponsart, C., A. Ferreira Vicente, F. Petot-Bottin, L. Perrot, M. Ribeiro, V. Djokic, G. Girault, L. Freddi. 2022. « Outbreak of bovine brucellosis in the Bargy mountain: special feature of B.melitensis infection in cattle. » Brucellosis 2022 International Research Conference, Giulianova, Italy, 16 - 19 September 2022

Ponsart, C., F. De Massis, A.C. Ferreira, A. Koets, E. Lahti, J. Mc Given, F. Sacchini, A.M. Whatmore, G. Girault, L. Freddi, A. Ferreira Vicente, V. Djokic. 2022. Online presentation to ZMD network meeting on the « Emergence of canine brucellosis in different European countries », EFSA, 13 October 2022.
Ponsart, C. 2022. « Brucellosis in Alpine Ibex: a singular reservoir of Brucella melitensis in the Bargy mountain. » Wildlife as a Reservoir for Diseases in Livestock, Brandenburg Academy. Communication en ligne. 21 October 2022.

Ponsart, C. 2022. '' Canine Brucellosis: introduction, disease and country overview. '' Società Italiana di Diagnostica di Laboratorio Veterinaria (S.I.Di.L.V.), Giulianova, Teramo, Italie, 19 septembre 2022

c) National conferences:

8
Ponsart, C., M. Ribeiro. Témoignage de LNR : « crise sanitaire Brucellose en Haute Savoie». Collège de la référence. Maisons-Alfort, France, 19 Mai 2022

Ponsart, C., A. Fontbonne. « La brucellose canine : une zoonose en expansion en France. » Webinaire pour le réseau national des vétérinaires. Anses/EnvA, Communication en ligne. Maisons-Alfort, France, 7 juillet 2022 et 22 septembre 2022

Ponsart, C., K. Adjou. Co-organisation de la séance académique du 1er décembre 2022 « Zoonoses émergentes», ACADÉMIE VÉTÉRINAIRE DE FRANCE, 2022. 2022 - Académie Vétérinaire de France. Consulté le 2/02/2023. https://academie-veterinaire-defrance.org/seances-publiques/seances-archives/2022

Ferrreira Vicente, A., L. Freddi, F. Petot-Bottin, M. Ribeiro, A. Dremeau, L. Perrot, G. Girault, V. Djokic, C. Ponsart, L. Kharchevska. « Infection à Brucella canis, une zoonose émergente dans les élevages canins en France. » In: ADILVA RNSPV, Bourges, France, 13 - 14 octobre 2022

Ponsart, C., A. Ferrreira Vicente, V. Djokic, G. Girault, L. Freddi. « Retour d'expérience suite au foyer de brucellose bovine en Haute Savoie.

» In: ADILVA RNSPV, Bourges, France, 13 - 14 octobre 2022

Ferreira Vicente, A. « Comparison of five serological methods in non-infected, suspect, exposed and brucellosis infected dogs: impacts on diagnosis strategies. » In : Journées Scientifiques et Doctorales de l'Anses, Maisons-Alfort, France, 18 -19 octobre 2022

Freddi, L. et Girault, G. « Nouvelles avancées pour la détection et la caractérisation de Brucella : écouvillons floqués et PCR-HRM. » In : Journées Scientifiques et Doctorales de l'Anses, Maisons-Alfort, France, 18 -19 octobre 2022

Freddi, L. et Ferreira Vicente, A. « Brucellose canine en France et en Europe de l'Ouest : la vigilance est de mise ! » Séance de l'Académie vétérinaire de France (AVF), Séminaire sur « les zoonoses émergentes, EnvA, Maisons-Alfort, France, 1 décembre 2022

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

2 expertise reports, ECDC-EFSA 2021 zoonoses report, 1 international webinar, 2 national webinars on canine brucellosis
Peroz-Sapede, Carole, Mialet Sylvie, Boulouis Henri-Jean, Charabidze Damien, Chevrier Boris, Decors Anouk, Giraud Etienne, Martin Clément, Ponsart Claire, Souillard Rozenn, Vaillancourt Jean-Pierre. 2018. « Enfouissement de cadavres issus d'animaux d'élevage ou de la faune sauvage ». Avis complété de l'Anses. Rapport complété d'expertise collective. Mars 2022. (Saisine N°2020-SA-0011), 182 pages, https://www.anses.fr/fr/system/files/SABA2020SA0011Ra_0.pdf

Burucoa, Christophe, Céline Cazorla, Christian Chidiac, Jean-François Gehanno, Bruno Hoen, Jean-Philippe Lavigne, Alexandra Mailles, Élisabeth Nicand, David O'Callaghan, Claire Ponsart, Matthieu Revest, France Roblot. 2022. « Conduite à tenir vis-à-vis de personnes exposées à des animaux atteints de Brucellose canine. » 18 mars 2022, 24 pages, https://www.hcsp.fr/explore.cgi/avisrapportsdomaine?clefr=1195

EFSA and ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control). 2022. The European Union One Health 2021 Zoonoses Report. EFSA Journal 2022; 20(12): 7666, 273 pp. https://doi.org/10.2903/j.efsa.2022.7666

Ponsart C, Fontbonne A, 2022. Emergence of canine brucellosis in different European countries". IDEMBRU Online webinar, ZMD EFSA network, December 8, 2022. Replay: https://vimeo.com/781756755

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 : Delegation visit by Georgian partners: Laboratory Health and Safety practices, CoLLLab (October 2022 - Georgia ; 6 persons)

b) Seminars : EURL for Brucellosis Workshop (Italy, September 2022 ; 41 participants) ; Ponsart C, Fontbonne A, 2022. Emergence of canine brucellosis in different European countries". IDEMBRU Online webinar, ZMD EFSA network, December 8, 2022, ~150 participants. Replay: https://vimeo.com/781756755

c) Hands-on training courses: One week training session on Brucellosis : Immunology and Molecular biology (July - Azerbaijan, Turkey, Georgia)• Training session in the framework of EURL for Brucellosis at ANSES: Molecular biology: real-time PCR, HRM PCR, molecular typing (May 2022) • Training session in the framework of EURL for Brucellosis at ANSES: Immunoserology, control of reagent (ELISA kits and RB antigen) (October 2022):

d) Internships (>1 month)

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

Immunology and Molecular biology	Azerbaijan, Turkey, Georgia	5
Molecular biology: real-time PCR, HRM PCR, molecular typing (May)	EU Member states	8
Immunoserology, control of reagent (ELISA kits and RB antigen)	EU Member states	8

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	https://www.cofrac.fr/annexes/sect1/1-2246.pdf	

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
RBT / CFT /SAT / ELISA	COFRAC (member of EA and ILAC)
Isolation, identification and biotyping of Brucella	COFRAC (member of EA and ILAC)
Control of RBT, CFT, SAT antigens & ELISA kits	COFRAC (member of EA and ILAC)
Control of Brucella vaccines (in vitro batch control)	COFRAC (member of EA and ILAC)
PCR for Brucella detection in milk	COFRAC (member of EA and ILAC)

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

Yes

Biorisk management system including manipulation, storage, transport of Brucella. Biosecurity and Biosafety protocols Secured access to data, laboratory, collections

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?

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

Yes

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

Yes

PURPOSE OF THE PROFICIENCY	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS/ ORGANISING WOAH REF.

TESTS: 1	PARTICIPANT)		LAB.
Brucella PCR methods	Organizer	15	FLI (DE), IZSAM (IT)
Brucella Bacteriology (in process)	Organizer	28	FLI (DE), IZSAM (IT)

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?

Yes

TITLE OF THE PROJECT OR CONTRACT	SCOPE	NAME(S) OF RELEVANT WOAH REFERENCE LABORATORIES
EURL Workprogramme 2020-2022	Diagnostic tools and genotyping	FLI (DE), IZSAM (IT)
IDEMBRU, One Health EJP project	Emerging species of Brucella	APHA (UK), FLI (DE), IZSAM (IT)
Biosurveillance of Brucellosis in Azerbaijan, Georgia and Turkey	Epidemiology of brucellosis in the silk road area	USA

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?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAH Member Countries
Brucellosis serology on serum and milk	Organizer	3	Asia and Pacific
Brucellosis bacteriology. Serology on milk (Organizer = Siensano)	Participant		Europe

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Review of WOAH chapter	On-line / E-mails	

29. Additional comments regarding your report:

No