

# WOAH Reference Laboratory Reports Activities 2022

## Activities in 2022

This report has been submitted : 25 avril 2023 16:33

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOA Reference Laboratory:</b>	Rabies
<b>Address of laboratory:</b>	1600 Clifton Road, NE, Mail Stop H15-1 Atlanta, GA 30 333 UNITED STATES OF AMERICA
<b>Tel.:</b>	404-639-1050
<b>E-mail address:</b>	rabies@cdc.gov
<b>Website:</b>	<a href="https://www.cdc.gov/rabies/index.html">https://www.cdc.gov/rabies/index.html</a>
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	David Lowe, PhD, Lead, Quality Management Team
<b>Name (including Title and Position) of WOA Reference Expert:</b>	Ryan Wallace, DVM, MPH, Veterinary Medical Officer
<b>Which of the following defines your laboratory? Check all that apply:</b>	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 WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
IHC	Yes	11	0
Sequencing	Yes	154	0

Direct diagnostic tests		Nationally	Internationally
DFA	Yes	533	0
DRIT	Yes	12	0
RT PCR	Yes	187	0
RFFIT	Yes	1470	68

## TOR2: REFERENCE MATERIAL

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

No

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
Low Glycerol Mounting Medium	DFA	Provided		9 x 10 (90 ml)	2	Africa America
FITC Anti Rabies Monoclonal Globulin	DFA	Provided		9 x 5ml (450 ml)	2	Africa America
PBS Packets	DFA	Provided		80 packets (to make 80 liters)	2	Africa America
LN34 Primers and Probes	RABV PCR (LN34)	Produced and provided	132 ml	78 ml	5	
Positive control RNA	RABV PCR (LN34)	Produced and provided	22 ml	100 ml	6	
RABV primers	RABV sequencing	Produced and provided	12 ml	12 ml	4	

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 WOA?H 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
HAITI	2022-02-01	DFA/PCR	1	1

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
HAITI	Microscope and Reagent information	Teleconference
ETHIOPIA	Microscope and Reagent information	Teleconference
BRAZIL	RABV PCR and sequencing	protocol sharing
COLOMBIA	RABV sequencing	protocol sharing
VIETNAM	Protocol and study development	Teleconference, protocol sharing
THAILAND	RABV PCR and sequencing training, training for project implementation	In-person training, shipped blinded panel, results discussion and consultation
GUINEA	Surveillance consultation	Teleconference & In-person conference
SENEGAL	Surveillance support	Teleconference
ZAMBIA	RABV PCR / sequencing and LFD rapid diagnostic test training	In-person training, sequence analysis support, results discussion and consultation

## 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
Rabies Surveillance in the United States during 2021	12 months	Annual surveillance report of rabies in domestic and wild animals in the US.	Canada, Mexico, United States Department of Agriculture	CANADA MEXICO
Enhancing Zoonotic				

Respiratory Pathogen Surveillance by Leveraging One Health Capacity for Commonly Prioritized Zoonotic Diseases	3 years	Leverage current rabies surveillance capacity for respiratory zoonoses and other priority zoonoses	Thailand DLD, Cambodia GDAHP, Vietnam DAH, Mission Rabies NGO	CAMBODIA
Zambia mass dog vaccination/IBCM	3 years	Implement and evaluate dog vaccination campaign and conduct IBCM training. Conduct training on the use of LFD for rabies testing	Zambia MFL, Mission Rabies NGO	ZAMBIA
Analysis of available animal testing data to propose peer-derived quantitative thresholds for determining adequate surveillance capacity for rabies	12 months	Establish threshold for national adequate rabies surveillance	N/A	

## 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:

Collected rabies surveillance data in domestic and wild animals for 50 states in the United States during 2022. Collected surveillance data from animal investigations in Haiti, Vietnam, India, Malawi, Sri Lanka, Thailand, and Cambodia .

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:

Data is processed for the previous year and published annually. The latest report will be reported in 2023, for 2021 data. The most recent data is available here : <https://avmajournals.avma.org/view/journals/javma/260/10/javma.22.03.0112.xml>. Surveillance data collected via mobile application is analyzed and distributed to relevant country authorities. GIS data analyzed to prioritize locations for rabies vaccination planning in Zambia.

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:

13

Blackburn, Dawn et al. "Human Rabies - Texas, 2021." MMWR. Morbidity and mortality weekly report vol. 71,49 1547-1549. 9 Dec. 2022,

doi:10.15585/mmwr.mm7149a2

Ma, Xiaoyue et al. "Rabies surveillance in the United States during 2020." *Journal of the American Veterinary Medical Association* vol. 260, 10 1157-1165. 5 May. 2022, doi:10.2460/javma.22.03.0112

Whitehill, Florence et al. "Rabies in a Dog Imported from Azerbaijan - Pennsylvania, 2021." *MMWR. Morbidity and mortality weekly report* vol. 71, 20 686-689. 20 May. 2022, doi:10.15585/mmwr.mm7120a3

Tidman, Rachel et al. "United Against Rabies Forum: The One Health Concept at Work." *Frontiers in public health* vol. 10 854419. 13 Apr. 2022, doi:10.3389/fpubh.2022.854419

Henry, Ronnie E et al. "A country classification system to inform rabies prevention guidelines and regulations." *Journal of travel medicine* vol. 29, 4 (2022): taac046. doi:10.1093/jtm/taac046

Gibson, A D et al. "Elimination of human rabies in Goa, India through an integrated One Health approach." *Nature communications* vol. 13, 1 2788. 19 May. 2022, doi:10.1038/s41467-022-30371-y

Beasley, Erin A et al. "Roles of traditional medicine and traditional healers for rabies prevention and potential impacts on post-exposure prophylaxis: A literature review." *PLoS neglected tropical diseases* vol. 16, 1 e0010087. 20 Jan. 2022, doi:10.1371/journal.pntd.0010087

Condori, Rene E et al. "Divergent Rabies Virus Variant of Probable Bat Origin in 2 Gray Foxes, New Mexico, USA." *Emerging infectious diseases* vol. 28, 6 (2022): 1137-1145. doi:10.3201/eid2806.211718

Moran, David et al. "Heterogeneity in dog population characteristics contributes to chronic under-vaccination against rabies in Guatemala." *PLoS neglected tropical diseases* vol. 16, 7 e0010522. 7 Jul. 2022, doi:10.1371/journal.pntd.0010522

Ross, Yasmeen B et al. "Rabies healthcare-seeking behaviors of urban and peri-urban residents: Results from a rabies knowledge, attitudes, and practices survey, Bangladesh, 2018." *PLoS neglected tropical diseases* vol. 16, 8 e0010634. 9 Aug. 2022, doi:10.1371/journal.pntd.0010634

Grome, Heather N et al. "Translocation of an Anteater (*Tamandua tetradactyla*) Infected with Rabies from Virginia to Tennessee Resulting in Multiple Human Exposures, 2021." *MMWR. Morbidity and mortality weekly report* vol. 71, 15 533-537. 15 Apr. 2022, doi:10.15585/mmwr.mm7115a1

Rao, Agam K et al. "Use of a Modified Preexposure Prophylaxis Vaccination Schedule to Prevent Human Rabies: Recommendations of the Advisory Committee on Immunization Practices - United States, 2022." *MMWR. Morbidity and mortality weekly report* vol. 71, 18 619-627. 6 May. 2022, doi:10.15585/mmwr.mm7118a2

Kunkel, Amber et al. "Notes from the Field: Three Human Rabies Deaths Attributed to Bat Exposures - United States, August 2021." *MMWR. Morbidity and mortality weekly report* vol. 71, 1 31-32. 7 Jan. 2022, doi:10.15585/mmwr.mm7101a5

b) International conferences:

1

*Rabies in the Americas Conference*

c) National conferences:

2

*Council for State and Territorial Epidemiologist Conference*  
*Epidemic Intelligence Service Conference*

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

## TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit :

b) Seminars :

c) Hands-on training courses: 2

d) Internships (&gt;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
c	Zambia	25
c	Thailand	30

## TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
CLIA	PDF	
ISO 17025 Equivalency	PDF	ISO17025 Equivalency.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Orthopox IgG ELISA	A2LA-ISO17025
Rapid Fluorescent Foci Inhibition Test	CLIA
Indirect Fluorescent Antibody Test	CLIA
Direct Fluorescent Antibody test	CLIA
Real Time Reverse Transcriptase Polymerase Chain Reaction (RT-PCR)	CLIA

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

## 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
International	RABLAB			Paris	
International	RABLAB			Virtual	
International	RABLAB			Virtual	
International	RABLAB			Virtual	

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
UAR				
Rabies Status Meeting				

## ***TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES***

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

No

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

No

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?

No

## ***TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING***

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

No

## ***TOR12: EXPERT CONSULTANTS***

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

No

29. Additional comments regarding your report:

No