

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 10 juin 2024 12:12

Laboratory Information

Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Rabies
Address of laboratory:	Agricultural Research Council, Onderstepoort Veterinary Institute, 100 Old Soutpan Road, Onderstepoort , Pretoria, Republic of South Africa
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Website:	www.arc.agric.za
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Munangatire Mparamoto
Name (including Title and Position) of WOA Reference Expert:	Prof Claude Sabeta
Which of the following defines your laboratory? Check all that apply:	Science Council 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	
		Nationally	Internationally
Indirect diagnostic tests			
Monoclonal antibody typing		0	0
Direct diagnostic tests			
Direct fluorescent antibody test (DFAT)		333	27
Fluorescent antibody virus neutralisation test (FAVNT)		3956	259

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 (nonWOA-approved) and/or other diagnostic reagents to WOA 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 MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Biological conjugate	Direct fluorescent antibody test	Biorad	0	105 ml	7	ERITREA, ESWATINI, ETHIOPIA, LESOTHO, MALAWI, MOZAMBIQUE, ZIMBABWE,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOHM 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 WOHM 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 WOHM Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOHM 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
ESWATINI	2023-03-31	Direct fluorescent antibody test	0	1
NAMIBIA	2023-08-31	Direct fluorescent antibody test	0	26

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

No

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:

All the data generated for the DFAT are submitted to the Department of Agriculture on a monthly basis.

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:

These data were disseminated during the Rabies Advisory Group meetings.

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:

4

1. Tsie, K., Ngoepe, E., Phahladira, B., Khumalo, N. & Sabeta, C. 2023. Molecular Characterization of Lyssaviruses Originating from Domestic and Wild Cats Provides an Insight on the Diversity of Lyssaviruses and a Risk of Rabies Transmission to Other Susceptible Mammals and Humans in South Africa. *Pathogens* 12, 1212. <https://doi.org/10.3390/pathogens12101212>.

2. Claassen, D.D., Odendaal, L., Sabeta, C.T., Fosgate, G.T., Mohale, D.K., Williams, J.H. & Clift, S.J. 2023. Diagnostic sensitivity and specificity of immunohistochemistry for the detection of rabies virus in domestic and wild animals in South Africa. *Journal of Veterinary Diagnostic Investigation* 1-10. <https://doi.org/10.1177/10406387231154537>

3. Mohale, D.K.; Ngoepe, E.; Mparamoto, M.; Blumberg, L.; Sabeta, C.T. A Case Report on a Human Bite Contact with a Rabid Honey Badger *Mellivora capensis* (Kromdraai Area, Cradle of Humankind, South Africa). *Trop. Med. Infect. Dis.* 2023, 8, 186. <https://doi.org/10.3390/tropicalmed8040186>

Cantoni D, Mayora-Neto M, Derveni M, Da Costa K, Del Rosario J, Ameh VO, Sabeta CT, Auld B, Hamlet A, Jones IM, Wright E, Scott SD, Giotis ES, Banyard AC and Temperton N (2023) Serological evidence of virus infection in *Eidolon helvum* fruit bats: implications for bushmeat consumption in Nigeria. *Front. Public Health* 11:1283113. doi: 10.3389/fpubh.2023.1283113

b) International conferences:

3

Presentations at SASVEPM held in August in Gaborone, Botswana

1. Evidence for a host-switch in the maintenance of canid rabies variant in the Northern Cape Province, South Africa "-Oral Presentation

2. Differential antibody staining of Nigerian dog rabies using a South African monoclonal antibody panel(Poster)

3. Molecular characterization of lyssavirus rabies from domestic and African wild cats confirmed between 2010-2020 and newly identified *Lyssavirus mokola* (MOKV)". (Poster).

c) National conferences:

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 : 1

b) Seminars : 0

c) Hands-on training courses: 3

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	ESWATINI	1
C	ERITREA	2
A	ETHIOPIA	4
C	LESOTHO	1
C	MALAWI	1

C	MOZAMBIQUE	1
C	ZIMBABWE	1
C	ETHIOPIA	4

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17025	pdf	V0003-12-23.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Direct fluorescent antibody test	SANAS
Fluorescent antibody virus neutralisation test	SANAS

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

Yes

Biannual rabies titre checks for personnel, pre-exposure vaccinations for new personnel, access control to the laboratory facility, use of correct personal protective equipment, working in biological safety cabinets, separation of activities for different tests and use of standard controlled tests.

TOR9: SCIENTIFIC MEETINGS

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

No

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

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
2nd meeting of the Eastern Africa sub-regional network for rabies control	2023-10-10	Addis Ababa, Ethiopia	Speaker and moderator	Overview of RABLAB and available support for countries and Strengths/weaknesses/opportunities/threats of Rabies laboratory diagnostic capacity and Tracking the Rabies virus in Africa: Trends from genomics surveillance
United Against Rabies	2023-11-06	Rome, Italy	Attendee and moderator	

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

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

Yes

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHA REF. LABS
RabLab	Member	12	All rabies reference laboratories

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

No

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

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the Test	WOAH Member Countries
Determining the laboratory's capability to conduct specific diagnostic tests and checking or certifying the performance of individual operators	Participant	3	Direct fluorescent antibody test (Allerton Provincial Laboratory) and the National Institute of Communicable Diseases	SOUTH AFRICA,

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Africa Rabies Conference	Gaborone, Botswana	WOAH commission meeting
Review	Virtual	Review of national rabies control programme for Madagascar

29. Additional comments regarding your report:

No