

# OIE Reference Laboratory Reports Activities

## *Activities in 2021*

**This report has been submitted : 2022-02-01 12:15:37**

<b>Name of disease (or topic) for which you are a designated OIE Reference Laboratory:</b>	Infectious bursal disease (Gumboro disease)
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<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Dr. Nicolas Eterradossi, DVM, PHD, DipL ECPVS Head of Ploufragan-Plouzané-Niort Laboratory
<b>Name (including Title and Position) of OIE Reference Expert:</b>	Nicolas Eterradossi
<b>Which of the following defines your laboratory? Check all that apply:</b>	Governmental Research

**ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards**

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 OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
AGID	Yes	682	0
Virus neutralization	Yes	628	0
Direct diagnostic tests		Nationally	Internationally
Viral isolation or titration on embryonated eggs	Yes	0	0
Viral isolation or titration on CEF	yes	14	0
Viral isolation or titration on lymphocytes	no	449	31
Viral detection by AC-ELISA	yes	0	0
Partial amplification of IBDV genome (RT-PCR for VP2 or VP1)	yes	41	0
q-RT-PCR quantification of IBDV genome	no	30	0
Complete IBDV genome sequencing (Sanger or NGS)	no	39	5
Preparation of viral stocks from infected bursae of Fabricius	yes	198	0

**ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.  
To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens**

**or disease.**

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Virus	Virus neutralization	produced	0	14ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
positive anti-IBDV serum	Virus neutralization	produced	0	10ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Virus	Infection Studies	produced	0	2,5ml	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Viral antigen	AGID ELISA	produced	10ml	0	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Positive anti-IBDV serum	AGID ELISA	produced	3ml	0	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

**ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases**

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

**ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries**

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
HUNGARY	05/2021	0	6
UNITED STATES OF AMERICA	04/2021	0	6

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
FRANCE	molecular diagnostics for genotyping	visio conference / e.mails

**ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations**

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Type I Interferon acts as a major barrier to the establishment of infectious bursal disease virus (IBDV) persistent infections	1 month	Scientific article	Centro Nacional de Biotecnología, Madrid	SPAIN
Evaluation of the antigenic diversity of infectious bursal disease virus by an antigenic mapping approach on primary chicken lymphocytes	1 year	generate antigenic map for IBDV	Ceva Phylaxia Budapest	HUNGARY
Unified genetic classification of IBDV isolates	1 year	to develop genetic classification based on both genome segments	Mymensingh University Bangladesh	BANGLADESH
Coorelation of immunosuppressive potential of live attenuated IBD vaccines with changes in blood formula	1 year	As indicated title	Universität München, Veterinärwissenschaftliches Department, München, Germany	GERMANY

**ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases**

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:

During 2021, new descriptions of circulating IBDV strains were made in chickens: "vvIBDV" strains (genogroup A3B3) in China, Irak and Tunisia, "variant IBDV" strains (genogroup A2B1) in China, Malaysia and Korea, a new genotype (genogroup A unknown B1) in Portugal, and a natural reassortant and recombinant IBDV strain (segment A of an intermediate vaccine with recombination events with 2 "vvIBDV" strains and segment B of a "classical IBDV") with pathogenicity in China. Experimental evidence on clinical manifestations in pigeons after "vvIBDV" infection and on transmission of the virus between pigeons and chickens. Our laboratory contribution was to collect and characterize a new reassortant IBDV strain submitted from France (paper submitted)

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:

Paper published 2021 on a new molecular classification of IBDV and its use in detecting a reassortant virus in Bangladesh

**13. What method of dissemination of information is most often used by your laboratory?  
(Indicate in the appropriate box the number by category)**

a) Articles published in peer-reviewed journals: 3

Cubas-Gaona, L.L., Flageul, A., Courtillon, C., Briand, F.X., Contrant, M., Bougeard, S., et al. (2021). Genome Evolution of Two Genetically Homogeneous Infectious Bursal Disease Virus Strains During Passages in vitro and ex vivo in the Presence of a Mutagenic Nucleoside Analog. *Front Microbiol*, 12, 678563. doi: 10.3389/fmicb.2021.678563

Islam, M.R., Nooruzzaman, M., Rahman, T., Mumu, T.T., Rahman, M.M., Chowdhury, E.H., et al. (2021). A unified genotypic classification of infectious bursal disease virus based on both genome segments. *Avian Pathol*, 50, 190-206. doi: 10.1080/03079457.2021.1873245

Broto, L., Romero, N., Mendez, F., Diaz-Beneitez, E., Candelas-Rivera, O., Fuentes, D., et al. (2020). Type I Interferon acts as a major barrier to the establishment of infectious bursal disease virus (IBDV) persistent infections. *J Virol*. doi: 10.1128/JVI.02017-20

b) International conferences: 1

Antigenic cartography sheds new light on infectious bursal disease virus diversity. Cubas-Gaona, L.L., Courtillon, C., Keita A., Amelot, M., Elattrache, J., Kiss, I., Tatar-Kis, T., Grasland, B., Etteradossi, E., Cazaban, C. and Soubies, S. 2021. Oral communication 16th September 2021, Avian Infectious Diseases conference. Microbiology Society.

c) National conferences: 2

Céline Courtillon, Chantal Allée, Michel Amelot, Alassane Keita, Sonja Härthle, Bernd Kaspers, Nicolas Etteradossi et Sébastien M. Soubies. "La numération des lymphocytes B sanguins prédit le potentiel immunodépresseur des souches vaccinales du virus de la bursite infectieuse aviaire" XXIII Journées de Francophonie de Virologie April 2021 Web conference.

Céline Courtillon, Annonciade Molinet, Liliana Cubas Gaona, Béatrice Grasland, Nicolas Etteradossi et Sébastien Mathieu Soubies. "Investigation de la diversité génétique et pathotypique des souches de bursite infectieuse aviaire circulant en France". Assemblée Générale du GF-AMVA, 15 juin 2021, France

d) Other:

(Provide website address or link to appropriate information) 1

Etteradossi, N. & Saif, Y.M. (2020). Infectious Bursal Disease. In D.E. Swayne (Ed.), *Diseases of Poultry* 14 ed. pp. 257-283: Wiley Blackwell.

**ToR 7: To provide scientific and technical training for personnel from OIE Member Countries**

**To recommend the prescribed and alternative tests or vaccines as OIE Standards**

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

No

**ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned**

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
NF EN ISO/CEI 17025	Compliance certificate ISO 17025 2021 signé ECH.pdf

16. Is your quality management system accredited?

No

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

Yes

*(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)*

**ToR 9: To organise and participate in scientific meetings on behalf of the OIE**

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

**ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results**

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

No

22. Did your laboratory collaborate with other OIE 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 OIE Reference Laboratories
Development of an harmonized genotyping scheme for description of genetic variation in IBDV strains disease virus	Collaboration	Harbin Veterinary Research Institute, PR China

**ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results**

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

No

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

**ToR 12: To place expert consultants at the disposal of the OIE**

24. Did your laboratory place expert consultants at the disposal of the OIE?

No



25. Additional comments regarding your report:

As already mentioned in the 2020 report, international activities in 2021 were again severely affected by the global Covid19 situation (difficulties in generating new projects, implication of laboratory staff in Covid19 activities and travel restrictions).