

# OIE Reference Laboratory Reports Activities

## *Activities in 2021*

**This report has been submitted : 2022-01-14 11:52:58**

<b>Name of disease (or topic) for which you are a designated OIE Reference Laboratory:</b>	African swine fever
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<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Prof Bryan Charleston, Institute Director
<b>Name (including Title and Position) of OIE Reference Expert:</b>	Dr Linda Dixon, African swine fever virus group leader
<b>Which of the following defines your laboratory? Check all that apply:</b>	Other: Research institute

**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
ELISA	Yes	0	0
Direct diagnostic tests		Nationally	Internationally
Real-Time PCR	Yes	25	97
Virus Isolation/HAD	Yes	0	16

**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
ASFV antibody positive serum	ELISA	Provide	3ml	8ml	2	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
panel n=42 serum (200ul per sample)	LFD validation	Provide	8.4ml total	16.8ml total	3	<input checked="" 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
CHINA (PEOPLE'S REP. OF)	March	0	6
MONGOLIA	May	0	5
NIGERIA	October	0	81
CHINA (PEOPLE'S REP. OF)	May	0	5

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
NIGERIA	diagnostic testing and characterization of virus	Email
CHINA (PEOPLE'S REP. OF)	ASFV in wild suids in Hong Kong	Email
PHILIPPINES	Ongoing as part of an OIE twinning project	email and video conference

***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
Addressing the dual emerging threats of African Swine Fever and Lumpy Skin Disease in Europe (DEFEND)	5 Years	To control the growing LSD and ASF epidemics in Europe and neighbouring countries by understanding the drivers of LSDV and ASFV emergence, and by generating research outputs which underpin novel diagnostic tools and vaccines, and authenticate appropriate and rapid responses by decision-makers	The Pirbright Institute, Sciensano, The Friedrich Loeffler Institute (FLI) Sveriges Lantbruksuniversitet (SLU) Istituto Zooprofilattico Sperimentale Della Lombardia ed Emilia Romagna (IZSLER) Agricultural Research Council (ARC) Istituto Universitario Europeo (MPC) Veterinarians san Frontieres International (SIVtro VSF ITALIA) ZOETIS IDVet Klifovet AG University of Pretoria (UP) Canadian Food Inspection Agency (CFIA) CSIRO Ministry of Rural Development and Food (MINAGRIC) Athens Veterinary Centre (AVC) The Jenner Institute for Vaccine Research, University of Oxford (UOXF) State Food and Veterinary Service (SFVS) Republican Veterinary Laboratory (RVL) FGI Federal Centre for Animal Health (FGI ARRIAH) Ministry of Agriculture, Rural Development and Water Management (MINA) Diagnostic Veterinary Laboratory (DVL) Institute for Diagnosis and Animal Health (IDAH) Central Veterinary Authority (ANSVSA) Bulgarian Food Safety Agency (BFSA) Ministry of Agriculture and Food (MAF) SS. Cyril and Methodius University Skopje (SSU) Istanbul University (IU) Ministry of Food Agriculture and Livestock (MFAL) Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA) Veterinary Specialized institute Kraljevo (VSI-K) Scientific Veterinary Institute Novi Sad (NIV-NS)	ALBANIA AUSTRALIA AZERBAIJAN BELGIUM BULGARIA CANADA FRANCE GERMANY GREECE ITALY LITHUANIA MONTENEGRO NORTH MACEDONIA (REP. OF) ROMANIA RUSSIA SERBIA SOUTH AFRICA SPAIN SWEDEN TURKEY UNITED KINGDOM
IAEA Research Contract: CRP32032 Veterinary Diagnostic Laboratory Network (VETLAB Network) to prevent and control transboundary animal diseases (TADs)	5 Years	Develop validated reagents, build capacity for diagnosis	ANSES, CIRAD, IAEA, CSIRO, SENASA, Pirbright, LANAVET, CVI, LANADA, UKIM, ONSSA, NAHDIC	ARGENTINA AUSTRALIA AUSTRIA CAMEROON COTE D'IVOIRE CROATIA ETHIOPIA FRANCE MOROCCO NORTH MACEDONIA (REP. OF) SUDAN

ICRAD Project ASFVint: Decoding a virus Achilles heel: the African swine fever virus interactome	3 years	Research in support of vaccine development and understanding disease pathogenesis.	France (two Anses, INRAE), Spain (INIA), Germany (FLI), Estonia, (University of Tartu)	ESTONIA FRANCE GERMANY SPAIN
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**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:

We continue to develop/improve full genome sequencing methods for ASFV and are in the process of sequencing numerous strains in our extensive collection of ASFV isolates.

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:

Ulaankhuu Ankhanbaatar, Tserenchimed Sainnokhoi, Buyantogtokh Khanui, Gerelmaa Ulziibat, Tserenjav Jargalsaikhan, Dulam Purevtseren, Tirumala Bharani K. Settypalli, John Flannery, William G. Dundon, Ganzorig Basan, Carrie Batten, Giovanni Cattoli, Charles E. Lamien (2021). ASFV Genotype II in Mongolia, 2019. *Transboundary and emerging diseases*. 00:1- 8 DOI: 10.1111/tbed.14095

**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: 4  
see above

Petrovan V, Rathakrishnan A, Islam M, Goatley LC, Moffat K, Sanchez-Cordon PJ, Reis AL, Dixon LK. Role of African swine fever virus (ASFV) proteins EP153R and EP402R in reducing viral persistence in blood and virulence in pigs infected with BeninΔDP148R. *J Virol*. 2021 Oct 13;JV10134021. doi: 10.1128/JVI.01340-21. Epub ahead of print. PMID: 34643433.

Sánchez-Cordón PJ, Floyd T, Hicks D, Crooke HR, McCleary S, McCarthy RR, Strong R, Dixon LK, Neimanis A, Wikström-Lassa E, Gavier-Widén D, Núñez A. Evaluation of Lesions and Viral Antigen Distribution in Domestic Pigs Inoculated Intranasally with African Swine Fever Virus Ken05/Tk1 (Genotype X). *Pathogens*. 2021 Jun 18;10(6):768. doi: 10.3390/pathogens10060768. PMID: 34207265; PMCID: PMC8234863.

Rathakrishnan A, Reis AL, Goatley LC, Moffat K, Dixon LK. Deletion of the K145R and DP148R Genes from the Virulent ASFV Georgia 2007/1 Isolate Delays the Onset, but Does Not Reduce Severity, of Clinical Signs in Infected Pigs. *Viruses*. 2021 Jul 28;13(8):1473. doi: 10.3390/v13081473. PMID: 34452339; PMCID: PMC8402900.

b) International conferences: 1

Linda Dixon: Swedish Virology Society Annual Meeting 2021 African swine fever virus evasion of host defences and application to development of vaccines.

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 1

A. Urbano, J.H. Forth, A.S. Olesen, L. Dixon, T.B. Rasmussen, G. Cackett, F. Werner, A. Karger, G. Andrés, X. Wang, D. Perez-Nuñez, I. Galindo, A. Malogolovkin, Y. Revilla, C. Alonso, C. Gallardo, S. Blome, E. Arabyan, H. Zakaryan and F. Ferreira African swine fever virus: cellular and molecular aspects  
DOI 10.3920/978-90-8686-910-7\_2, © A. Urbano et al., 2021

**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?

Yes

a) Technical visits: 0

b) Seminars: 11

c) Hands-on training courses: 0

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
b (ASFV e learning course + additional topic sessions)	Philippines	30

**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)
ISO/IEC17025	UKAS Cer 2021.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Real-time PCR	UKAS
ELISA (antibody)	UKAS
ELISA (antigen)	UKAS

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?

Yes

Purpose of the proficiency tests: <sup>1</sup>	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/organising OIE Ref. Lab.
Validation data for new LFD	organiser	3	Organiser: UK Participant: South Africa Participant: Spain



<sup>1</sup> validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

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?

No

**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?

Yes

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

Purpose for inter-laboratory test comparisons <sup>1</sup>	No. participating laboratories	Region(s) of participating OIE Member Countries
Harmonisation of diagnostic tests	not privvy to this information	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

**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?

Yes

Kind of consultancy	Location	Subject (facultative)
OIE ASFV lab network and associated website	Remote	Organization meetings of the new OIE ASFV lab network
Responding to technical queries/providing advice to OIE	Remote	Genotype 1 emergence in China.
Responding to technical queries/providing advice to OIE	Remote	Genotype 2 emergence in the Caribbean
Advise to affected regions	Remote	Support to draft information regarding available diagnostics for E Asian region

25. Additional comments regarding your report: