OIE Reference Laboratory Reports Activities

Activities in 2021

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Swine influenza
Address of laboratory:	Via Bianchi 9 25124 Brescia ITALY
Tel.:	+39 (0)52129.37.33
Fax:	
E-mail address:	chiara.chiapponi@izsler.it
Website:	
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Piero Frazzi
Name (including Title and Position) of OIE Reference Expert:	Chiara Chiapponi
Which of the following defines your laboratory? Check all that apply:	Governmental

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	
Indirect diagnostic tests		Nationally	Internationally
HI	yes	12156	5045
ELISA	yes	296	0
Direct diagnostic tests		Nationally	Internationally
RT-PCR- M gene	yes	2680	5
cell culture inoculation	yes	215	1
eggs inoculation	yes	44	0
multiplex RT-PCR	yes	202	1
NGS sequencing	no	88	66

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
SWINE INFLUENZA ANTIGEN H1N2	HI TEST	PRODUCED/PROVIDED	80	NONE	1	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
SWINE INFLUENZA ANTIGEN H3N2	HI TEST	PRODUCED/PROVIDED	80	NONE	1	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
SWINE INFLUENZA ANTIGEN H1N1pdm09	HI TEST	PRODUCED/PROVIDED	60	NONE	1	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
HYPERIMMUNE SERUM H1N1pdm09	HI TEST	PRODUCED/PROVIDED	1	NONE	1	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
26 SWINE INFLUENZA ANTIGENS (H1N1, H1N2, H13N2, H1N1pdm09) LIVE STRAINS	HI ANTIGENIC CHARACTERIZATION	PRODUCED/PROVIDED	NONE	1ML/EACH	1	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐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
CYPRUS	April	361	none
CYPRUS	May	281	none
CYPRUS	June	426	none
CYPRUS	July	164	none
CYPRUS	September	256	none
GREECE	April	877	none
GREECE	May	272	none
GREECE	June	649	none
GREECE	July	381	none
GREECE	September	512	none
GREECE	October	302	none
GREECE	November	436	none
GREECE	December	132	none
MALTA	April	1	none

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

No

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
Understanding the dynamics and evolution of swine influenza viruses in Europe: relevance for improved intervention and sustainable pig production (PIGIE)	2021-2024	ICRAD Co-Funded Project: Research Area 1: Improved understanding of epidemic and emerging infectious animal diseases	French Agency for Food, Environmental and Occupational Health & Safety (ANSES), Animal and Plant Health Agency (APHA),Friedrich-Loeffler-Institut (FLI), University of Copenhagen (UCPH),Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER), Universitat Autònoma de Barcelona (UAB)	DENMARK FRANCE GERMANY SPAIN UNITED KINGDOM
International swine Influenza Network	annual	European Network on swine Influenza	FLI, Riems, Germany; DTU, Copenhagen, Denmark; UAB, Barcelona, Spain; ANSES, Ploufragan, France; IZSVe, Padua, Italy; IZSLER, Brescia, Italy; APHA, Weybridge, UK; Warsaw University, Warsaw, Poland; CEVA, Libourne, France	DENMARK FRANCE POLAND SPAIN UNITED KINGDOM
Swine influenza data for OFFLU contribution to WHO vaccine composition meeting	annual	To share animal influenza data with WHO in order to assist with selection of the most appropriate viruses for human vaccines, which can include animal viruses that present a potential to emerge into pandemic threats.	OFFLU Partners	

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:
Viral strains are isolated for genetic and antigenic characterization. Origin and date of sampling are collected

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:
Sequencing data, origin and date of sampling (OFFLU-VCM),

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: 2
Genetic Variability among Swine Influenza Viruses in Italy: Data Analysis of the Period 2017–2020
Chiara Chiapponi,Alice Prosperi,Ana Moreno,Laura Baioni,Silvia Faccini,Roberta Manfredi,Irene Zanni,Valentina Gabbi,Irene Calanchi,Alice Fusaro,Maria Serena Beato,Lara Cavicchio,Camilla Torreggiani,Giovanni Loris Alborali and Andrea Luppi Viruses 2022, 14(1), 47; https://doi.org/10.3390/v14010047 - 28 Dec 2021

Identification and Characterization of Swine Influenza Virus H1N1 Variants Generated in Vaccinated and Nonvaccinated, Challenged Pigs.
López-Valiñas Á, Sisteré-Oró M, López-Serrano S, Baioni L, Darji A, Chiapponi C, Segalés J, Ganges L, Núñez JI. Viruses. 2021 Oct 16;13(10):2087. doi: 10.3390/v13102087.

b) International conferences: 0

c) National conferences: 4
DYNAMIC EVOLUTION OF H1 SWINE VIRUSES: WHAT CAN WE EXPECT IN THE NEAR FUTURE?
A. Moreno, G. Alborali, L. Baioni, S. Faccini, A. Luppi, A. Prosperi, C. Rosignoli, C. Salogni, S. Canziani, S. Salvato, T. Trogu, C. Chiapponi. 5TH NATIONAL CONGRESS OF THE ITALIAN SOCIETY FOR VIROLOGY-2021
CHARACTERIZATION OF INFLUENZA A VIRUSES ISOLATED DURING SWINE INFLUENZA'S OUTBREAKS IN ITALY, 2017-2020. CHIAPPONI C., PROSPERI A., MORENO A., FACCINI S., ALBORALI G.L., BAIONI L., GABBI V., MANFREDI R., TORREGGIANI C., LUPPI A.XLVI SIPAS annual Meeting (Verona, Italy,2021)
FLU SCREENING IN TEN SWINE FARMS LOCATED IN LOMBARDY. GUADAGNINI G., PONZONI D., OTTOLINI F., COSSETTINI C., ZANNI I.,CHIAPPONI C.,PROSPERI A., LUPPI A. XLVI SIPAS annual Meeting (Verona, Italy,2021)
ECOLOGY AND EVOLUTION OF SwIAV: THE IMPORTANCE OF A DYNAMIC GENOTYPING APPROACH. PROSPERI A., CHIAPPONI C., ROSIGNOLI C., MORENO A., FACCINI S., ALBORALI L., BAIONI L., GABBI V., CALANCHI I., MANFREDI R., LUPPI A.National Congress S.I.Di.L.V. Italy 2021

d) Other:
(Provide website address or link to appropriate information) 0

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)
EN ISO/IEC 17025:2018	Accreditation_certificate_Lab0148L.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Matrix (M) gene PCR	ILAC-MRA_Accredia

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: [1]	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Detection of influenza A virus by molecular test	participant	18	OIE Reference laboratory for avian Influenza Padua Italy

[1] *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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
Understanding the dynamics and evolution of swine influenza viruses in Europe: relevance for improved intervention and sustainable pig production-PIGIE (ICRAD)	ICRAD Research Area 1: Improved understanding of epidemic and emerging infectious animal diseases	Animal and Plant Health Agency (APHA)

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:

The COVID-19 pandemic has impacted international laboratory activities in terms of participation to meetings and exchange of personnel.