World Organisation for Animal Health

Hilde Sindre - - NORWAY

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 11 février 2025 15:35

LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Infection with salmonid alphavirus
***Address of laboratory:**	
***Tel:**	+47 23.21.60.00
***E-mail address:**	hilde.sindre@vetinst.no
Website:	https://www.vetinst.no/en
***Name (including Title) of Head of Laboratory (Responsible Official):**	Gun Peggy Strømstad Knudsen, Director General
***Name (including Title and Position) of WOAH Reference Expert:**	Dr. Hilde Sindre
***Which of the following defines your laboratory? Check all that apply:**	Governmental Research agency

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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Histopathology	Yes	253	0
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR	Yes	758	0
RT-PCR with sequencing	Yes	76	0

Immunohistochemistry	Yes	27	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
Isolated live field isolate SAV	several	5	30	0	1	NORWAY,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
In situ hybridization	In Situ Detection of Salmonid Alphavirus 3 (SAV3) in Tissues of Atlantic Salmon in a Cohabitation Challenge Model with a Special Focus on the Immune Response to the Virus in the Pseudobranch. Tartor H, Bernhardt LV, Mohammad SN, Kuiper R, Weli SC. Viruses. 2023 Dec 17;15(12):2450. doi: 10.3390/v15122450.

7. Did your laboratory validate diagnostic methods according to WOAH 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 WOAH Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAH Member Countries involved other than your country
Effect of pancreas disease vaccines on infection levels and virus transmission in Atlantic salmon (Salmo salar) challenged with salmonid alphavirus, genotype 2.	2023-2024	Evaluate the effect of a DNA vaccine on viremia and neutralizing activity	Experimental Pathology Laboratories Inc., 45600 Terminal Drive, Sterling, VA 20166, United States.	UNITED STATES OF AMERICA
Robust Atlantic salmon through fine-tuned genome editing	2020-2024	Produce SAV-clones for experimental trials Evaluate immune responses	INRA - French National Institute for Agricultural Research	FRANCE
EPA immune - Can dietary EPA affect viral response in Atlantic salmon?	2021-2025	Produce SAV-clones for experimental trials.	University of Manchester	UNITED KINGDOM

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

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:
Data collected related to all Norwegian detections of SAV and also all verified PD cases

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:
An overview of the occurence of SAV is presented in the annual Fish Health report. All reported cases of SAV are also presented continuously at our web page (Pankreassykdom (PD) - utbrudd og statistikk (vetinst.no)) including an inter-active map over outbreaks.

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:

3

Effect of pancreas disease vaccines on infection levels and virus transmission in Atlantic salmon (Salmo salar) challenged with salmonid alphavirus, genotype 2.
Thorarinsson R, Ramstad A, Wolf JC, Sindre H, Skjerve E, Rimstad E, Evensen Ø, Rodriguez JF.
Front Immunol. 2024 Mar 7;15:1342816. doi: 10.3389/fimmu.2024.1342816. eCollection 2024.

In Situ Detection of Salmonid Alphavirus 3 (SAV3) in Tissues of Atlantic Salmon in a Cohabitation Challenge Model with a Special Focus on the Immune Response to the Virus in the Pseudobranch.
Tartor H, Bernhardt LV, Mohammad SN, Kuiper R, Weli SC.
Viruses. 2023 Dec 17;15(12):2450. doi: 10.3390/v15122450.

A refinement to eRNA and eDNA-based detection methods for reliable and cost-efficient screening of pathogens in Atlantic salmon aquaculture.
Benedicenti O, Måsøy Amundsen M, Mohammad SN, Vrålstad T, Strand DA, Weli SC, Patel S, Sindre H.
PLoS One. 2024 Oct 21;19(10):e0312337. doi: 10.1371/journal.pone.0312337. eCollection 2024.

b) International conferences:

1

Trination meeting, April 2024
Presentation, Hilde Sindre: Update on the PD, HSMI and CMS situation in Norway

c) National conferences:

0

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

2

EFSA report: Assessment of listing and categorisation of animal diseases within the framework of the Animal Health Law (Regulation (EU)2016/429): Infection with salmonid alphavirus (SAV).
EFSA Panel on Animal Health and Welfare (AHAW); Nielsen SS, Alvarez J, Calistri P, Canali E, Drewe JA, Garin-Bastuji B, Gonzales Rojas JL, Gortázar C, Herskin MS, Michel V, Miranda Chueca MÁ, Padalino B, Roberts HC, Spoolder H, Ståhl K, Velarde A, Viltrop A, Winckler C, Bron J, Olesen NJ, Sindre H, Stone D, Vendramin N, Antoniou SE, Broglia A, Karagianni AE, Papanikolaou A, Bicout DJ.
EFSA J. 2023 Oct 30;21(10):e08327. doi: 10.2903/j.efsa.2023.8327. eCollection 2023 Oct.

The Fish Health report provide an annual status and risk evaluation of the fish health situation in Norway. (web- link https://www.vetinst.no/rapporter-og-publikasjoner/rapporter/2024/fishhealthreport-2023)

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
NS-EN ISO/IEC 17025	Accreditation document.pdf	Accreditation document.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Flexible accrediation including all methods based on the same principle, this includes real-time RT-PCR for SAV ME07_070	Norwegian Accreditation, member of EA

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

Yes

Biosecurity system based on NS-ISO 27000-series and described in intern biosecurity-document "BIOSIKKERHET - PR-04 ".

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

Not applicable (only WOAH Reference Laboratory designated for the disease

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

Not applicable (only WOAH Reference Laboratory designated for the disease

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

Only lab

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the

diagnosis or control of the pathogen of interest?

Not applicable (only WOAH Reference Laboratory designated for the disease

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Identification of the pathogens causing the nonexotic and exotic fish diseases listed in Council Directive 2016/88EC, . In 2015, SAV was included for the first time.	Participant	43	the Inter-Laboratory Proficiency Test 2023 for identification and titration of VHSV, IHNV, EHNV (fish ranaviruses), SVCV and IPNV (PT1) and identification of CyHV-3 (KHV), SAV and ISAV (PT2)	AUSTRALIA, AUSTRIA, BELGIUM, BOSNIA AND HERZEGOVINA, BULGARIA, CANADA, CHILE, CROATIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FAROE (ISLANDS), FINLAND, FRANCE, GREECE, HUNGARY, ICELAND, INDIA, IRELAND, ITALY, JAPAN, KOREA (REP. OF), LATVIA, LITHUANIA, NEW ZEALAND, NORTH MACEDONIA (REP. OF), NORWAY, POLAND, PORTUGAL, ROMANIA, SERBIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, SWITZERLAND, THE NETHERLANDS, UNITED KINGDOM, UNITED STATES OF AMERICA,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No