World Organisation for Animal Health

Hilde Sindre - - NORWAY

WOAH Reference Laboratory Reports Activities 2025

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LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Infection with salmonid alphavirus
***Address of laboratory:**	Arboretveien 57, 1433 Aas, Norway
***Tel:**	+47 23.21.60.00
***E-mail address:**	vi1013@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	273	0
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR	Yes	675	0
RT-PCR with sequencing	Yes	88	0
immunohistochemistry	Yes	17	0
Cell culture	Yes	12	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
inactivated salmonid alphavirus genotype 3	real-time RT-PCR	2	0,5	2	1	CHINA (PEOPLE'S REP. OF), NORWAY,

Isolated live field isolate SAV	several	1	50 ml	0	1	NORWAY,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

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 WOAH Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?

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?

No

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 is 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 (last available report: https://www.vetinst.no/rapporter-og-publikasjoner/rapporter/2025/norwegian-fish-health-report-2024). All reported cases of SAV are also presented continuously at our web page (https://www.vetinst.no/dyr/oppdrettsfisk/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:

2
Nanopore sequencing provides snapshots of the genetic variation within salmonid alphavirus-3 (SAV3) during an ongoing infection in Atlantic salmon (Salmo salar) and brown trout (Salmo trutta) HyeongJin Roh, Kai Ove Skaftnesmo, Dhamotharan Kannimuthu, Abdullah Madhun, Sonal Patel, Bjørn Olav Kvamme, H Craig Morton, Søren Grove Vet Res. 2024 Sep 3;55(1):106. doi: 10.1186/s13567-024-01349-z.

Red and melanized focal changes in the white skeletal muscle of farmed rainbow trout Oncorhynchus mykiss.
Bjørgen H, Brimsholm M, Lund M, Dahle MK, Rimstad E, Koppang EO. Dis Aquat Organ. 2024 Jun 27;158:201-213. doi: 10.3354/dao03797.PMID: 38934260

b) International conferences:

1
29th Annual workshop of the National Reference laboratories for fish diseases, Denmark
"Using environmental DNA/RNA as a tool for monitoring and surveillance of pathogens"
Hilde Sindre, Ottavia Benedicenti, David Strand, Marit Amundsen, Duncan Colquhoun, Haakon Hansen, Torfinn Moldal and Trude Vrålstad*

c) National conferences:

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

2
Norwegian Fish Health report - limk in point 15.
Information regarding PD on our web site: https://www.vetinst.no/sykdom-og-agens/pankreassykdom-pd

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_ Norsk Akkreditering 2025.pdf	Accreditation document_ Norsk Akkreditering 2025.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. Are you a member of a network of 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
EU-RL Interlaboratory Proficiency test for 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-LaboratoryProficiency Test 2025 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, GERMANY, 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