OIE Reference Laboratory Reports Activities

Activities in 2016

This report has been submitted : 2017-02-06 18:02:20

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Viral haemorrhagic septicaemia
Address of laboratory:	Bülowsvej 27 1870 Frederiksberg C DENMARK
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E-mail address:	njol@vet.dtu.dk
Website:	www.vet.dtu.dk
Name (including Title) of Head of Laboratory (Responsible Official):	Director Niels Tækker Foged
Name (including Title and Position) of OIE Reference Expert:	Professor Niels Jørgen Olesen, DVM, Ph.D.
Which of the following defines your laboratory? Check all that apply:	Academic

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
ELISA	Yes	17	584
RT-PCR	Yes	10	9
IFAT	Yes	0	0
Direct diagnostic tests		Nationally	Internationally
Cell cultivation BF-2	Yes	1024	584
Cell cultivation EPC	Yes	664	584
RT-qPCR	Yes	10	287

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
BF-2 Cell culture	Virus propagation	Yes	0	14 x 100 ml & 1x250 ml	6	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐Middle East
EPC cells	Virus propagation	Yes	0	12 x 100 ml	5	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐Middle East
Other cell lines (CCB, GF, ASK-1, RTG-2, FHM, SSN-1, WSSK, EK-1, KF1)	Virus propagation	Yes	0	21 x 100 ml	7	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐Middle East
CHSE-214 Cell culture	Virus propagation	Yes	0	10 x 100 ml	4	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐Middle East
VHSV isolates of various genotypes	Positive controles, validations of tests etc	Yes	5 x FTA cards	47 x FTA cards & 63 cryotubes	9	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐Middle East
Other fish pathogenic viruses	For differential diagnosis, controls etc.	Yes	0	477 Cryotubes	6	☐Africa ☒Americas ☐Asia and Pacific ☒Europe ☐Middle East

Monoclonal and polyclonal antibodies against VHSV	ELISA, IFAT, IHC, WB etc.	Yes	0	5	3	☐Africa ☐Americas ☒Asia and Pacific ☒Europe ☐Middle East
Other antibodies for differential diagnosis	ELISA, IFAT, IHC, WB etc.	Yes	0	7	4	☐Africa ☐Americas ☒Asia and Pacific ☒Europe ☐Middle East
Eagles MEM	Cell culture medium	Yes	1	0	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?

Yes

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

No

Name of the new test or diagnostic method or vaccine developed	Description and References (Publication, website, etc.)
Conventional RT-PCR for detection of VHSV 3F2R by Kim & Olesen	Manuscript in preparation

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
BELGIUM	January	0	3
SWEDEN	March	0	175
CROATIA	April + June	13	6
SLOVENIA	May	0	30
AUSTRIA	October	0	6
SERBIA	August	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
KOREA (DEM. PEOPLE'S. REP. OF)	OIE Twinning progress meeting and VHS workshop	Meetings, on site visits and workshop
CHINA (PEOPLE'S REP. OF)	Workshop, meetings	Meetings, on site visits and presentations at workshops. Exchange of reagents.
SWITZERLAND	Mission	On site visit, lab demonstrations, meetings with presentations

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
Identification of virulence markers in two loss-making Novirhabovirus is the key to improve diagnostic and strategic management in farmed rainbow trout (NOVIMARK)	2016--2019	Identification of virulence markes in VHSV and development of tests for discriminating between virulence properties	Institut National de la Recherche Agronomique (INRA);Agence Nationale de Sécurité Sanitaire (ANSES); Universidad de Santiago de Compostela (USC); Istituto Zooprofilattico Sperimentale delle Venezie (IZSVe); Centre for Environment Fisheries and Aquculture Sciences (CEFAS); Technical University of Denmark (DTU)	UNITED KINGDOM
VHSV Virulence determinants	2016	To assess putative determinants in VHSV responsible for causing high virulence in fish	Tamaki Laboratory, Aquatic Animal Health Division, National Research Institute of Aquaculture, Fisheries Research Agency, 224-1 Hiruda, Tamaki, Mie, Japan and Aquatic Animal Health Division, National Research Institute of Aquaculture, Fisheries Research Agency, 422-1 Nakatsuhamaura, Minami-Ise, Mie, Japan	JAPAN
OIE Twinning project	2015-2017	To develop improved RT-PCR method for detection of VHSV, to further classify marine VHSV by sequencing	Kim, Hyoung Jun, Ph. D. E-mail: hjkim1882@korea.kr Tel: +82-51-400-5653, National Fishery Products Quality Management Service, 337, Haeyang-ro, Yeongdo-gu, Busan, 606-080, Republic of Korea	KOREA (REP. OF)
Study of VHSV genotype IV from Iceland	2015-2017	To stydy VHSV isolated from lumpfish in Iceland (lumpfish are used as cleanerfish in the salmon industrry and thereby pose a significant risk)	1) Rannsóknadeild fisksjúkdóma. Tilraunastöð Háskóla Íslands í meinafræði að Keldum. Reykjavík.	ICELAND

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

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

Yes

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: 7
Haenen O.L.M., H. Schuetze, M. Cieslak, S. Oldenburg, M.A.H. Spierenburg, I. Roozenburg-Hengst, M. Voorbergen-Laarman, M.Y. Engelsma and N.J. Olesen (2016) First evidence of Infectious Hematopoietic Necrosis Virus (IHNV) in the Netherlands. Journal of Fish Diseases doi:10.1111/jfd.12434

Takafumi Ito, Jun Kurita, Koh-ichiro Mori, Niels J Olesen (2016) Virulence of viral haemorrhagic septicaemia virus (VHSV) genotype III in rainbow trout. Vet Res 47:4

Ian A. Gardner, Richard J. Whittington, Charles G.B. Caraguel, Paul Hick, Nicholas J. G. Moody, Serge Corbeil, Kyle A. Garver, Janet V. Warg, Isabelle Arzul, Maureen K. Purcell, Mark St. J. Crane, Thomas B. Waltzek, Niels J. Olesen, Alicia Gallardo Lagno (2016) Recommended reporting standards for test accuracy studies of infectious diseases of finfish, amphibians, molluscs and crustaceans: the STRADAS-aquatic checklist. Dis. Aquat. Org. Vol. 118: 91–111

Axén, C., Hakhverdyan, M., Boutrup, T. S., Blomkvist, E., Ljunghager, F., Alfjorden, A., Hagström, Å., Olesen, N. J., Juremalm, M., Leijon, M. and Valarcher, J.-F. (2016), Emergence of a new rhabdovirus associated with mass mortalities in eelpout (Zoarces viviparous) in the Baltic Sea. J Fish Dis. doi:10.1111/jfd.

Cieslak, Michael; Mikkelsen, Susie Sommer; Skall, Helle F.; Baud, Marine; Diserens, Nicolas; Engelsma, Marc Y; Haenen, Olga L M; Mousakhani, Shirin; Panzarin, Valentina; Wahli, Thomas; Olesen, Niels Jørgen; Schütze, Heike (2016) Phylogeny of the Viral Hemorrhagic Septicemia Virus in European Aquaculture. P L o S One, 11(10) DOI: 10.1371/journal.pone.0164475

Vendramin N., S. Zrncic2, F. Padrós, D. Oraic, A. Le Breton, C. Zarza and N. J.Olesen (2016) Fish health in Mediterranean Aquaculture, past mistakes and future challenges. Bull. Eur. Ass. Fish Pathol., 36(1)

Mikkelsen S. S., L. Bigarré, B. Bang Jensen, A. B. Kristofersen, P. A. Jansen, V. Panzarin, S. C. Bayliss, J. C. Avarre and N. J. Olesen (2016) Molecular tracing of viral diseases in aquaculture. Bull. Eur. Ass. Fish Pathol., 36(1)

b) International conferences: 4
20th Annual Workshop of the National Reference Laboratories for Fish Diseases,
Copenhagen, Denmark, May 31st- June 1st 2016 with the following presentations:
1: Overview of disease situation in Europe, Niels Jørgen Olesen
2: Update on the disease situation in aquatic organisms in the Mediterranean Niccolò Vendramin
3: Risk assessment of new VHSV from Lumpfish for Rainbow Trout, Atlantic Salmon and Lumpfish, Niccoló Vendramin
4: Susceptibility of Atlantic Salmon to IHNV E-genotype and interference with PRV infection; Niccoló Vendramin
5: Diagnostic Manual for NON EXOTIC and EXOTIC fish diseases; Niels Jørgen Olesen
6: Development and validation of a conventional RT-PCR for detection of VHSV Niels Jørgen Olesen

Aquatic Animal Health Workshop, AQSIQ Shenzhen City, China; Nov. 7-9th 2016
Aquaculture animal health trends and threats in Europe: Production and diseases Legislation and Reference laboratories; Niels Jørgen Olesen

International workshop on the VHS Research in Korea, Busan, RoK April 2016: Lecture 1: VHS: The current situation or “The disease that never stop surprising us!” Lecture 2. Molecular tracing of VHS outbreaks.

DAFINET international workshop, Copenhagen, Denmark November 2016

c) National conferences: 0

d) Other:
(Provide website address or link to appropriate information) 1
www.eurl-fish.eu

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: 3
b) Seminars: 66
c) Hands-on training courses: 21
d) Internships (>1 month): 2

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 & c	Austria	2
b	Belgium and Netherlands	3
b	Bosnia&Herzegovenia and Macedonia	1
b & c	Croatia	2
b	Czech Republic & Slovakia	2
b & c	Denmark & Faroe	24
b	Estonia & Latvia & Lithuania	3
b & c	Finland	2
b	_France	2
b & c	Germany	3
b	Greece	1
b	Hungary	1
b	Iceland	3
b	Ireland	1
b	Italy	2
c	Brazil & Chile	2
b & c	Norway	3
b & c	Poland	5
b	Portugal	2
b	Romania	1
b & c	United Kingdom	5
b	Serbia	1
b & c	Slovenia	2
b & c	Spain	2
b & c	Sweden	5
b	Switzerland	1

b	Republic of Korea	1
c	Ukraine	1

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 certified according to an International Standard?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
DS/EN ISO/IEC17025:2005	DANAK 05-0536 17025.pdf
DS/EN ISOIEC17043	DANAK 17043.pdf

16. Is your laboratory accredited by an international accreditation body?

No

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

No

(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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
OIE ad hoc Group on susceptibility of fish species to infection with OIE listed diseases	15-17 November 2016	Paris, rue Prony	Invited expert	Assessing susceptibility of fish species to infection with OIE listed diseases

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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[1]	No. participating laboratories	Region(s) of participating OIE Member Countries
To primarily assess the identification of the fish viruses: viral haemorrhagic septicaemia virus (VHSV), infectious hematopoietic necrosis virus (IHNV), epizootic haematopoietic necrosis virus (EHNV), spring viraemia of carp virus (SVCV), and infectious pancreatic necrosis virus (IPNV) by cell culture based methods	45	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☒Middle East
Assessing the ability of participating laboratories to identify the fish pathogens: infectious salmon anaemia virus (ISAV), salmonid alphavirus and Cyprinid herpesvirus 3 (CyHV-3) (otherwise known as koi herpes virus – KHV) by biomolecular methods (PCR based).	43	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☒Middle East
Assessing the reproducibility and robustness of a newly developed RT-PCR for dtection of VHSV	8	☐Africa ☐Americas ☒Asia and Pacific ☒Europe ☐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 Twining project	Republic of Korea	Training and research colaboration
OIE ad hoc Group on susceptibility of fish species to infection with OIE listed diseases	France	Expert group meeting and reporting

25. Additional comments regarding your report:

More OIE Member States participated in training courses and workshops than given due
to lack of space in the template. Concerning collaborative research project- usually more than 1 country was
involved, this could not be given in the shroll Down menu where only 1 country could be included.
Concerning the uploaded documentation for accreditation it seem like the uploads disappear in the final version.