



VetBioNet

Veterinary Biocontained facility Network for excellence
in animal infectiology research and experimentation

Newsletter – Issue 1



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VetBioNet Call for Proposals and Sample Requests

VetBioNet is an infrastructure project - funded by the European Commission in the context of Horizon 2020 - that aims to establish and maintain a comprehensive network of pre-eminent high-containment (BSL3) research facilities, academic institutes, international organisations and industry partners. VetBioNet is dedicated to catalysing research on epizootic and zoonotic diseases and to promote technological developments in Europe. Further details of the project can be found on its website: <http://www.vetbionet.eu/>.

VetBioNet offers access to the BSL3 facilities and technical resources of the consortium as part of its Transnational Access Activities (TNA). This **free-of-charge access** to high-containment animal experimental facilities and laboratories, technical platforms or biological samples is provided to researchers and enterprises proposing a sound project related to epizootic and zoonotic diseases. Academic and non-academic research groups, SMEs and industries are encouraged to apply, but only to access infrastructure services outside their own country.

Moreover, **VetBioNet offers access to sample collections available at partner institutes and produces on-demand samples.** VetBioNet collections include viruses, bacteria, prions and animal study derived products (sera, tissues etc.).



The call for applications was launched in January 2018 and will remain open for the entire duration of the project (until March 2022) or until all project-funded services have been used. Applications for TNA projects can be submitted at any time and will be processed within a pre-defined time schedule of approximately 6 weeks. Users of the services will be selected via a two-step selection process including an independent scientific peer review. The selected projects will be able to start working within VetBioNet shortly after notification.

On the other hand, applicants interested in receiving VetBioNet samples must send a complete request form available on VetBioNet website.

For more information about the services offered by VetBioNet, the eligibility criteria and the application process, as well as how to submit your application/request, please visit: <http://www.vetbionet.eu/calls/>.

If you have any specific questions, you can contact the VetBioNet TNA Access Point at: vbn.tnaaccesspoint@wur.nl.

VetBioNet Workshop on Standards for Aquatic Animals' Containment Facilities

Last January APHA Weybridge hosted Marine Scotland's workshop on "*Developing the elements and principles of the CEN (European Committee for Standardization) workshop CWA 15793: 2011 agreement/standard applicable to containment facilities for aquatic animals*". The emphasis was on what is different and challenging about the



management of aquatic animal facilities. The workshop also focused on defining best practices based on existing knowledge for aquatic animal infection facilities.

The main objective of the workshop was to identify steps needed to achieve conformity not only with the CEN standard but also with the resultant ISO standard, where the requirements of aquatic animal containment facilities differ from terrestrial animals and laboratories.

As VetBioNet promotes the establishment of guidelines and best practices, it was considered that input should be sought from researchers and industry with direct experience in designing and maintaining aquatic animal infection facilities, as well as bodies with responsibilities for regulation or



development of standards within the area of fish diseases. Attendees not only included VetBioNet partners involved in aquatic animal diseases, but also research institutes and representatives of the industry and regulators. For further information on the results of the workshop, please contact Mr. Hugh Simmons (APHA): Hugh.Simmons@apha.gsi.gov.uk.

First VetBioNet Stakeholders' Meeting



One of the goals of the VetBioNet consortium is to develop a Sustainability Plan to maintain its network of pre-eminent European high-containment (BSL3) research facilities, in order to conduct research on epizootic and zoonotic diseases

beyond the current funding period (2017-2022) gained through the *Horizon 2020* framework programme. An essential step towards the development of the VetBioNet



Sustainability Plan is the identification of stakeholders who have an interest in the outputs of the research conducted within VetBioNet facilities. Potential stakeholders include research funders, research scientists, policy makers and industries who are working towards the prevention and control of infectious diseases of livestock and zoonoses.

For this reason, VetBioNet is organizing stakeholder meetings, which will facilitate knowledge exchange between the VetBioNet consortium and relevant stakeholders, favoring the efficiency of scale of BSL3 facilities and ultimately benefiting the European bioeconomy. The first of these meetings was held at COPA-COGECA in Brussels on 27th-28th November 2017. The event was attended by 30 participants, 16 representatives of the VetBioNet consortium and 14 stakeholders from European-funded projects/networks, public organizations, industries, funders and charities. It should be noted that the VetBioNet members themselves are primary stakeholders in the project.

The meeting was structured over two half-days and the purpose and desired outcomes of the workshop were set out on the first day. First, a presentation was given by VetBioNet coordinators (Frédéric Lantier and Sascha Trapp, INRA), describing the overall structure and aims of the project. That was followed by presentations from the WP leaders on sustainability (Gary Entrican, MRI), transnational access (Norbert Stockhofe, WBVR), best practices (Hugh Simmons, APHA), ethics and societal impact (Kate Millar, UNOTT) and data resources, communication and stakeholder



engagement (Andrea Rosati, EAAP). The session was concluded with short presentations from 10 stakeholders from different sectors explaining their own backgrounds and potential interests in VetBioNet.

The second day involved stakeholder consultation,



informed by the presentations from the previous day. Delegates were allocated into three parallel working groups that discussed: (1) transnational access activities; (2) best practices, ethics and societal impact; and (3) data resources, communication and stakeholder engagement. The working groups covered each topic in turn with the discussions facilitated by the same VetBioNet WP leaders who then summarized the collective findings in short summary presentations. Sustainability was indicated as an important issue in the following areas: access to BSL3 facilities and the specialized expertise within the facilities; mechanisms for exchange of valuable samples; provision of guidelines on ethics and good practice; access to experimental protocols and new technologies that reduce animal usage (3Rs). It was agreed that establishing mechanisms for data access and data sharing (including data protection and confidentiality) via an outward-facing web portal is fundamental to all these areas. The stakeholders' feedback from the meeting and the summaries of the discussion groups will form a basis for the second stakeholders' meeting which will take place in autumn 2018. If you are interested in participating to the event, please contact Mr. Gary Entrican (MRI): gary.entrican@moredun.ac.uk.

Current VetBioNet research activities

The French Agency for Food, Environmental and Occupational Health & Safety (ANSES) is a VetBioNet partner and has initiated a work to determine the genetic diversity of infectious pancreatic necrosis virus (IPNV) strains circulating in France (compilation of the primers available and of their efficiency; selection of the best genome area to sequence) and carried out experimental infections on rainbow trout with strains of rhabdoviruses showing differential virulence in vivo.

In addition, ANSES has planned to sequence a large number of IPNV isolates to make a phylogenetic analysis of the strains circulating in rainbow trout in France and, if possible, in other EU countries. The strain selection to be made will be useful to identify and test in vivo some specific strains having atypical virulence profiles which will be fully sequenced and compared with virulent strains. The aim is to put in place best-



adapted tools to follow the immune responses involved in different cases and detect undescribed mutations.

ANSES is also working on the practical application of an in vitro culture system based on chicken primary lymphocytes, in order to study the replication kinetics of representative strains of infectious bursal disease virus (IBDV), evaluate the applied in vitro system and produce a viral antigen for diagnostic by agar gel immunodiffusion (AGID).

ANSES planned the application of the in vitro system based on B cells for the rescue of recombinant IBDV in vitro and to study genetic stability of vaccine and field strains.

Finally, ANSES is working with other VetBioNet partners on the development of high throughput genotyping technologies targeting the immunological synapse and the B-cell repertoire.

The development of the sequencing and bioinformatics platforms to enable high



resolution TRB repertoire analysis is ongoing in collaboration with The Pirbright Institute (TPI) and Aarhus University (AU), respectively for analysis of pigs and chickens.

Meanwhile, VetBioNet consortium is also working

on the development of new diagnostic immunoassays for rabbit hemorrhagic disease virus (RHDV): 3 of 4 representative virus-like particles (VLPs) have been obtained by ANSES from INIA, and the cooperation between INIA and ANSES for the production of RHDV strain-specific rabbit polyclonal antibodies is ongoing.