

OIE Twinning for Rabies: Capability Building in China

The OIE Reference Laboratory for rabies in the UK, based at the Animal Health and Veterinary Laboratories Agency (renamed Animal and Plant Health Agency; APHA in October 2015) acting as the parent and hosting organisation was awarded a twinning project to build capability in diagnosing animal rabies with the Changchun Veterinary Research Institute (CVRI) in China, part of the Chinese Academy of Agricultural Sciences.

The objectives of the OIE twinning project were:

1. To increase knowledge and preparedness for rabies in China and Europe by sharing information, transferring technology and knowledge management;
2. To harmonise methods for rabies diagnosis in Chinese provinces, to OIE standards.



Prof. Fooks and Prof. Tuv visited CVRI

In 2011, AHVLA organised an ethics workshop, which included the subject of ethical use of animals in research. The issue of welfare standards for animals under experimentation has improved significantly throughout China over the last five years, with legislation now in place governing such issues. The “3Rs”

principles have now been established in Chinese law, to which institutes are legally required to comply.

During the training workshops, laboratory visits and mentoring, the scientists at the CVRI laboratory have been trained in the following diagnostic techniques for rabies virus:

- Removal of brain samples using the straw technique;
- Preparation and storage of RNA from tissue samples;
- RT-PCR - including an introduction to reverse-transcription loop-mediated isothermal amplification;
- Troubleshooting OIE-prescribed tests particularly the rabies tissue-culture infection test (RTCIT) and the fluorescent antibody test (FAT);
- Detection of antigen in fixed tissue using in-situ hybridisation;
- Introduction to antibody detection using pseudotype viruses;
- Participation in international rabies ring trials and proficiency tests;
- Establishment of serial OIE standard methods;
- Improvements to ethics, safety and quality standards.



Changchun Veterinary Research Institute

Since 2012, the DLR has been providing technical assistance, support and international consultancy, and undertakes effectively and actively the tasks assigned by OIE and its regional representatives in Asia. In 2012, the DLR hosted a workshop in rabies diagnostic techniques for scientists from the Rabies Vaccine Production Laboratory, Nepal. In addition, serological testing for measuring rabies-specific antibodies in animals has been instigated at the DLR. As a result, the DLR is now testing increasing numbers of canine sera samples, and was recently requested to test antibody titers against rabies for vaccinated giant pandas. Vaccination certificates for two Giant Pandas (Xinghui and Haohao) now living in Belgium were issued. At present, the DLR received approximately ten dog serum samples per week for serological testing.

With the initiation of the OIE Twinning project and the move to the new campus, the institute has now initiated the process towards national quality accreditation, overseen by the China National Accreditation Service. Administrators and staff in the institute, in particular those working in the area of rabies diagnostic veterinary services, were assigned to take on various responsibilities aimed at accomplishing the process of quality accreditation. Many areas of the work undertaken at the DLR were progressing towards compliance with ISO9001:2008 and ISO17025 quality standards. The institute is progressing towards national quality accreditation, which should be achieved by 2015. In 2012, DLR passed an International Laboratory Comparison Test organized by the EU Reference Laboratory for Rabies Serology (Nancy, France) demonstrating proficiency in rabies serological testing.

Since 2012 when CVRI was accredited as an OIE Reference Laboratory for rabies, the research undertaken at the institute has been of a more international standard whilst addressing pertinent scientific questions that address important national and regional issues.

In 2013, Dr. Tu, head of the DLR took the FAO-OIE mission as the laboratory specialist to assist Vietnam with the prevailing rabies situation. He also gave assistance and presentations on rabies at the meetings organized by OIE sub-regional Representative for South-East Asia and Regional Representative for Asia and the Pacific upon their requests. A Regional Rabies Diagnosis Workshop is planned in 2014 for participants from all ten member countries of ASEAN upon the request of OIE sub-regional Representative for South-East Asia and will be held in Changchun, China.



Regional Rabies Diagnosis Workshop for ASEAN member states at CVRI in 2014

Prof. Fooks, Head of the AHVLA national rabies laboratory and an OIE expert for rabies concluded that *“The OIE twinning experience has benefitted both laboratories and has enabled a strong collaborative relationship of mutual trust, friendship and co-operation to flourish”*.