Quality Control of Veterinary Vaccines
African Union – Pan African Veterinary Vaccine Centre (AU–PANVAC)
P.O. Box 1746, Debre-Zeit, Ethiopia
Tel. +251 11 433 12 86; + 251 11 433 80 01; Fax +251 11 433 88 44
E-mail: aupanvac@africa-union.org
Website: www.au.int
Contact point: Dr Karim Tounkara

This OIE Collaborating Centre focuses on the provision of independent quality control for veterinary vaccines. In addition, the Centre facilitates the standardisation of veterinary vaccine production and harmonisation of vaccine quality control techniques; promotes the transfer of appropriate vaccine production technologies, and provides training and technical support services to vaccine quality control laboratories. The objective of the Centre is to promote the availability of quality assured veterinary vaccines and to facilitate the development and introduction of new or improved veterinary vaccines.

Veterinary Epidemiology and Public Health
EpiCentre
P/Bag 11 222,
Palmerston North 4442,
New Zealand
Tel. +64-6 35.05.195
E-mail: T.E.Carpenter@massey.ac.nz; N.P.French@massey.ac.nz
Website: epicentre.massey.ac.nz
Contact point: Prof. Tim Carpenter

Since its designation in May 2013, the Centre has been teaching an eight-module course in ‘One Health’ to a cohort of 19 veterinary and medical professionals from Mongolia and the People’s Republic of China. It is coordinating research projects and presenting short courses in seven countries in South Asia. It has participated in economics, epidemiology, ‘One Health’, and veterinary science workshops and conferences in Australia, France, Germany, New Zealand and the United Kingdom. The Centre has also hosted veterinary epidemiologists from the Republic of Korea and governmental officials from Mongolia.

OIE Reference Laboratories

Foot and mouth disease
Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna (IZSLER)
Via A. Bianchi No. 9, 25124 Brescia, Italy
Tel. +390-30 229 03 10; Fax +390-30 229 03 69
E-mail: emiliana.brocchi@izsler.it
Designated reference expert: Dr Emiliana Brocchi

For many years, IZSLER has taken the role of National and FAO Reference Centre for foot and mouth disease (FMD). As a new OIE Reference Laboratory, IZSLER has the capability to perform the serological, virological and molecular diagnostic tests applied to FMD diagnosis, as well as the antigenic and genomic characterisation of viruses. The new OIE Reference Laboratory has wide expertise
in the production and characterisation of monoclonal antibodies (MAbs) against FMD virus serotypes and viral non-structural proteins; these MAbs are also supplied to other research laboratories worldwide. In collaboration with the OIE/FAO Reference Laboratory for FMD in the United Kingdom, IZSLER has developed new-generation, enzyme-linked immunosorbent assay (ELISA) kits for both antibody and antigen detection and serotyping of the FMD virus; these user-friendly kits, some of them unique, are being distributed within the framework of EuFMD\(^1\) cooperation projects to many countries in the Middle East, Central Asia and Africa. Laboratory training and testing for large-scale serosurveys are additional services provided.

**Japanese encephalitis**

* Rabies & Japanese Encephalitis Research Laboratory, Viral Disease Division, Animal and Plant Quarantine Agency (QIA), Ministry of Agriculture, Food, Rural Affairs (MAFRA)
  175 Anyang-ro, Manan-gu, Anyang, Gyeonggi 430-757, Republic of Korea
  Tel. (82) 31 467 1783; Fax (82) 31 467 1797
  E-mail: yankdk@korea.kr; ydk40@hanmail.net
  Website: www.qia.go.kr/eng/index.asp
  Designated reference expert: **Dr Dong Kun Yang**

  This OIE Reference Laboratory provides OIE Member Countries with diagnostic materials (haemagglutination inhibition, plaque reduction neutralisation test, reverse-transcription polymerase chain reaction kit, specific monoclonal antibodies, etc.) for Japanese encephalitis (JE) and consultations on controlling JE in animals. The laboratory has carried out research projects on the development of inactivated and attenuated vaccines (genotype 1) and on new diagnostic tools for JE.

**Ovine theileriosis**

* Lanzhou Veterinary Research Institute, Chinese Academy of Agricultural Sciences (CAAS), Vector and Vector-borne Diseases Control Laboratory (VVBDC)
  Xujiaiping 1, Chengguan District, Lanzhou, Gansu Province 730046, People’s Rep. of China
  Tel. +86-93 18.34.26.81; Fax +86-93 18.34.09.7
  E-mail: yinhong@caas.net.cn
  Designated reference expert: **Prof. Hong Yin**

**Q fever**

* French National Reference Laboratory for animal Q fever, Anses Sophia-Antipolis, Les Templiers, 105 Route des Chappes, B.P. 111, F-06902 Sophia-Antipolis Cedex, France
  Tel. +33(0)4 92 94 37 36
  E-mail: Elodie.ROUSSET@anses.fr
  Designated reference expert: **Dr Elodie Rouset**

  The Anses Sophia Antipolis laboratory uses its expertise to carry out research and confirmatory diagnostics on Q fever in animals. It has an inter-laboratory proficiency testing programme and also produces reference materials. The laboratory performs strain isolation and culture in Biosafety Level 3 facilities and serological and molecular testing (including quantitative real-time polymerase chain reaction), as well as genomic characterisation (genotyping, sequencing). Its research programmes, often in collaboration with other international scientists and field professionals, are aimed at developing new methods and improving diagnostic and epidemiological approaches. The general goal is to improve knowledge on pathogenesis, transmission modalities to support risk assessments, and prevention and disinfection measures for ruminants and the environment or other animal reservoirs. International exchanges and collaborations have

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\(^1\) EuFMD: European Commission of the FAO for the Control of Foot and Mouth Disease
already involved other countries, including Algeria, Belgium, Canada, Croatia, Denmark, Estonia, Finland, Germany, Hungary, Italy, the Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Tunisia, Turkey and the United Kingdom.

**Swine influenza**
Animal Health and Veterinary Laboratories Agency (AHVLA)
New Haw, Addlestone, Surrey KT15 3NB, United Kingdom
Tel. +44-1932 35 73 39; Fax +44-1932 35 72 39
E-mail: ian.brown@ahvla.gsi.gov.uk
Designated reference expert: *Prof. Ian Brown*

AHVLA has a long-standing programme of work on swine influenza. This encompasses the development and use of appropriate diagnostic tools and the design and conduct of surveillance programmes through to providing consultancy and training to third countries whilst supporting international initiatives. AHVLA currently coordinates a European Union surveillance network for influenza in pigs, and is a member of the Joint OIE/FAO Network of Expertise on Animal Influenza (OFFLU) Swine Influenza Virus (SIV) Group. AHVLA’s main areas of interest are the epidemiology of influenza in pigs, characterisation of viruses, production of relevant reagents, and studying the pathogenesis, transmission and host range of influenza A viruses in pigs.

**Swine streptococcosis**
Key Lab Animal Bacteriology, Ministry of Agriculture, College of Veterinary Medicine, Nanjing Agricultural University
No. 1 Weigang, Nanjing 210095, People’s Republic of China
Tel. (+86-25) 84396517; Fax (+86-25) 84396517
E-mail: lucp@njau.edu.cn
Designated reference expert: *Dr Chengping Lu*

This laboratory specialises in the diagnosis, surveillance, prevention and control of swine streptococcosis. Molecular and serological tools have been established, such as polymerase chain reaction and enzyme-linked immunosorbent assay. An inactivated vaccine against *Streptococcus suis* serotype 2 infection has also been developed. An important part of the work of this laboratory is training veterinarians and students. In addition, it cooperates with several countries, especially countries in South-East Asia, and provides technical training on epidemiology and diagnosis of this disease.