



Curriculum Vitae

Personal information **Laurent Dacheux**

Work experience

01/06/2004 – CURRENT – Paris, France

LABORATORY MANAGER – Institut Pasteur (National Reference Center for Rabies)

Deputy director of the National Reference Center for Rabies (NRC-R) at Institut Pasteur, Paris, with the following main missions: 1/ supervision of the diagnosis activities (accreditations ISO 15189 and ISO/IEC 17025), 2/ development and validation of diagnostic tests, 3/ advisory and expert activities towards health professionals or public health and veterinary government institutions.

01/06/2004 – CURRENT – Paris, France

LABORATORY MANAGER – Institut Pasteur (WHO Collaborative Centre for Research and Reference on Rabies)

In charge of various activities focused on the diagnosis, especially those regarding training activities through lectures and organization of workshops in Asia and Africa.

01/06/2004 – CURRENT – Paris, France

PRINCIPAL RESEARCH SCIENTIST – Institut Pasteur (unit Lyssavirus, Epidemiology and Neuropathology)

Leader of integrated researches focused on the two main animal reservoirs of rabies, with carnivores (mainly dogs) and bats, in an One Health approach.

01/01/2002 – 31/12/2003 – Tours, France

HOSPITAL RESEARCH ASSISTANT – University Hospital, Laboratory of Pharmacology

In charge of technicians supervision, analysis validation and results communication to the hospital services.

Education and training

2019 – 2019 – Paris, France

UNIVERSITARY DIPLOMA (DU) BIOLOGICAL AND MEDICAL ENGINEERING – Sorbone

University, Faculty of Medicine

2002 – 2005 – Tours, France

PHD IN VIROLOGY – University of Tours, Faculty of Medicine

2004 – 2004 – Paris, France

FUNDAMENTAL VIROLOGY COURSES – Institut Pasteur

2001 – 2001 – Tours, France

MASTER IN INFECTIOLOGY – University of Tours, Faculty of Medicine

1994 – 2001 – Tours, France

PHARMD – University of Tours, Faculty of Pharmaceutical Sciences

2000 – 2000 – Tours, France

MASTER OF BIOLOGICAL AND MEDICAL SCIENCES – University of Tours, Faculty of Medicine

Additional information

Publications

Field Postmortem Rabies Rapid Immunochromatographic Diagnostic Test for Resource-Limited Settings with Further Molecular Applications

J Vis Exp. 2020 Jun 29;(160). doi: 10.3791/60008.

<https://www.jove.com/t/60008/field-postmortem-rabies-rapid-immunochromatographic-diagnostic-test> – 2020

Description and video of a complete protocol for field postmortem diagnosis of animal rabies using a rapid immunochromatographic diagnostic test (RIDT), from brain biopsy sampling to the final interpretation. Presentation of an additional protocol of the further use of the device for molecular analysis and viral genotyping.

Enabling animal rabies diagnostic in low-access areas: Sensitivity and specificity of a molecular diagnostic test from cerebral tissue dried on filter paper

PLoS Negl Trop Dis. 2020 Mar 6;14(3):e0008116. doi: 10.1371/journal.pntd.0008116. eCollection 20

<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0008116> – 2020

Demonstration of the application of filter papers as a convenient alternative for biological sample shipment and storage for the diagnosis of animal rabies. The efficiency of a molecular diagnostic method applied to brain tissue dried on filter paper was compared to one of the reference methods, the direct fluorescent antibody test, and exhibited an excellent sensitivity, even when filter papers are left 7 days at ambient temperature.

Diagnostic tests for human rabies

Rev Sci Tech. 2018 Aug;37(2):581-593. doi: 10.20506/rst.37.2.2826.

<https://www.oie.int/fr/normes/manuel-terrestre/> – 2018

Description of the diagnostic techniques for human rabies in the last rabies reference manual of OIE.

Laboratory techniques in rabies

WHO. Rupprecht, Charles E, Fooks, Anthony R & Abela-Ridder, Bernadette. (2018-2019).5th ed.

<https://apps.who.int/iris/handle/10665/310836> – 2018

Contribution to five chapters in the last version (5th ed.) of the two manuals of laboratory techniques for rabies edited by the World Health Organization.

Validation of a Rapid Rabies Diagnostic Tool for Field Surveillance in Developing Countries

PLoS Negl Trop Dis. 2016 Oct 5;10(10):e0005010. doi: 10.1371/journal.pntd.0005010

<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0005010> – 2016

Evaluation of the performance and the reliability of a rapid, easy to use rabies diagnostic tool, demonstrating a high accordance with the standard reference method for the detection of RABV by immunofluorescence microscopy and even higher reliability when applied in resource poor laboratory conditions.

Dual Combined Real-Time Reverse Transcription Polymerase Chain Reaction Assay for the Diagnosis of Lyssavirus Infection

PLoS Negl Trop Dis. 2016 Jul 5;10(7):e0004812. doi: 10.1371/journal.pntd.0004812

<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0004812> – 2016

Description of the development and the validation of a molecular diagnostic tool for lyssavirus infection based on the detection of viral RNA, demonstrating its useful and practicable application in national reference centers in enzootic regions.

Evaluation of high-throughput sequencing for identifying known and unknown viruses in biological samples

J Clin Microbiol. 2011 Sep;49(9):3268-75. doi: 10.1128/JCM.00850-11

<https://jcm.asm.org/content/49/9/3268.long> – 2011

Successful assessment of the analytical sensitivity of a pipeline for detection of viruses in biological samples based on either the Roche-454 genome sequencer or Illumina genome analyzer platforms.this blind study.

Lyssavirus detection and typing using pyrosequencing

J Clin Microbiol. 2011 May;49(5):1932-8. doi: 10.1128/JCM.02015-10.

<https://jcm.asm.org/content/49/5/1932.long> – 2011

First description of application of pyrosequencing for lyssavirus identification using a cheaper diagnostic approach than the one for all the other protocols for rapid typing.

More accurate insight into the incidence of human rabies in developing countries through validated laboratory techniques

PLoS Negl Trop Dis. 2010 Nov 30;4(11):e765. doi: 10.1371/journal.pntd.0000765.

<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0000765> – 2010

Review of publications relating to the evaluation of methods for human rabies diagnosis in developing country settings in order to highlight the sampling methods and techniques that are likely to give the most reliable results. Guidelines for the diagnosis of human rabies.

A reliable diagnosis of human rabies based on analysis of skin biopsy specimens

Clin Infect Dis. 2008 Dec 1;47(11):1410-7. doi: 10.1086/592969.

<https://academic.oup.com/cid/article/47/11/1410/281794> – 2008

First description of the application of skin biopsy specimens in the molecular diagnosis of human rabies, prospectively or retrospectively. Establishment of a robust diagnosis method for human rabies diagnosis.

Projects

2020 – CURRENT

Field Test for Rabies Diagnostic (FiTeRaD) (Principal investigator)

The FiTeRaD (Field Tests for Rabies Diagnostic) project aims to develop and validate, in laboratory and in the field, the first point of care tests (POCT) for the rapid detection of the etiological agent of rabies (with rabies virus - RABV) in humans. In addition, these tests will also represent the first POCTs applied to the diagnosis of animal (dog) rabies on non-invasive samples.

2011 – CURRENT

International workshops on rabies diagnosis (Principal investigator / Partner)

Various workshops on the diagnosis of rabies are regularly organized at international level, in the form of theoretical courses and practical work sessions. These workshops are organized in close collaboration with local partners and can last from one day to 1 week.

These technical workshops can be organized alone or be integrated into broader teaching programs on the control of rabies or other zoonoses.

Memberships

01/09/2018 – CURRENT

Member of the Institutional Review Board (IRB) of Institut Pasteur Institut Pasteur, Paris

01/06/2004

Expert for national (Ansm, SpF) and international organisms (WHO, OIE) in the framework of the National Reference Center for Rabies

Other Relevant Information