

## EURL news

News related to the EURL activities

### Annual review of tests related to rabies performed in 2017 ongoing

The usual call to fill the annual questionnaires related to rabies tests performed in the Rabies NRLs is now ongoing. This survey has to be answered online. All European Union NRL have received the link by now and should answer the questionnaire before end of March. This survey allows the EURL to ensure the continuous monitoring of rabies test results carried out into the Community. Thanks again you for your cooperation!

### Inter-laboratory test for tetracycline determination on teeth 2017: Modified report online

Please be aware that an updated version of the Inter-laboratory test for tetracycline determination on teeth 2017 report is now online in the private part of the website. The report has been amended by an annex presenting a subsequent analysis performed with a participant laboratory.

### Workshop for rabies 2018: Please save the date!

If not done yet, please save the date for next workshop for rabies that will be held on 13 June afternoon and 14 June 2018 morning in the Uccle campus (ex-CERVA), near Brussels in Belgium. All details of this 10th edition including registration, instructions and hotel booking, will be sent to invited laboratories by e-mail. Last year was exceptional because we opened this workshop to an international participation thanks to the consecutive organization of the rabies serology meeting. Please, take note that unfortunately, contrarily to last year, this meeting will be dedicated to UE and bordering NRL laboratories only.

## News from laboratories & International Institutions

News related to the EURL for rabies laboratory network and rabies community

### EFSA Manual for reporting on zoonoses and zoonotic agents, within the framework of Directive 2003/99/EC, and on some other pathogenic microbiological agents for information deriving from the year 2016

[Relayed from the EFSA website] "This reporting manual provides guidance for reporting on zoonoses and zoonotic agents in animals, food and feed under the framework of Directive 2003/99/EC and also on the reporting of other pathogenic microbiological agents in food. The objective is to harmonise and streamline reporting by Member States (MSs) to ensure that the data collected are relevant and easy to analyse at the European Union (EU) level. This manual covers all the zoonoses and zoonotic agents included under the current data collection system run by the European Food Safety Authority (EFSA). Detailed instructions are provided on reporting data in both table and text form. [...] The instructions given are related to the description of the sampling and monitoring schemes applied, as well as analysing the results in the national reports. [...]". Rabies part can be found in chapter "5.11. Rabies in animals" page 57 of the manual.

### Euroreference journal: Issue 3 released!

[Relayed from the Euroreference website] This journal is "now co-edited by several EU member state institutions dealing with reference laboratory activities in animal and plant health or food and drinking water safety as well as by EPPO." The "aim is to convert Euroreference to a truly European journal, thus strengthening the network of EU laboratories working in these sectors and consolidate EU efficiency, by facilitating the dissemination of information about reference activities among stakeholders at European level." Issue 3 of the journal can be downloaded here.

### Rabies vaccines and immunoglobulins: WHO position - Summary of 2017 updates

[Relayed from WHO website] "The new WHO recommendations for rabies immunization supersede the 2010 WHO position on pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) for rabies. These updated recommendations are based on new evidence and directed by public health needs that are cost-, dose- and time-sparing, while assuring safety and clinical effectiveness. In addition, new guidance on prudent use of rabies immunoglobulin (RIG) is provided. The [...] sections summarize the main points of the updated WHO position as endorsed by the Strategic Advisory Group of Experts on immunization (SAGE) at its meeting in October 2017. The full version of the WHO position on rabies vaccines and immunoglobulins will be published in the Weekly Epidemiological Record in April 2018. (Read more...)". Read le document.

## A planning tool for eliminating human rabies deaths through mass dog vaccination

[Relayed from GARC website] In 2016, WHO, OIE, FAO, and many NGOs released a framework to achieve the joint goal of eliminating dog-mediated human rabies by 2030. But the goal requires overcoming substantial challenges. Dog-rabies endemic countries are at different stages in their control efforts; most countries have to overcome important hurdles [...]. Drawing from multiple datasets [...], researchers at the US Centers for Disease Control and Prevention (CDC) roughly estimated the resources needed to achieve the elimination of dog-mediated human rabies deaths by 2030, [...]. Their aim was to describe the global rabies situation, highlighting some of the main challenges that may complicate elimination efforts in a consistent framework, the Global Dog Rabies Elimination Pathway (GDREP). The GDREP focuses on four key factors that determine [read more...]

## Agenda

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### Forthcoming events

- 20-22 March** 6<sup>th</sup> Better Foods for Better Health Séminaire, Veyrier-du-Lac (France)
  - 20-22 March** Regional Workshop on implementation of OIE Terrestrial Animal Health Standards, Nairobi (Kenya)
  - 23-25 March** 10<sup>th</sup> Annual International Congress of Antibodies-2018 (ICA-2018), Washington (USA)
  - 26-27 March** International Veterinary Vaccinology Network meeting, Nairobi (Kenya)
  - 10-12 April** OIE Sub-Regional Conference on rabies in southern Africa, Windhoek (Namibia)
  - 10-12 April** Training of national OIE Focal Points for Animal Disease Notification on WAHIS, Ouagadougou (Burkina Faso)
  - 19-20 April** 4<sup>th</sup> Global Summit on Virology and Vaccines Conference, Valencia (Spain)
  - 23-25 April** 4<sup>th</sup> MEEREB Meeting, Veyrier-du-Lac (France)
  - 24-26 April** OIE Sub-Regional Conference on rabies in southern Africa, Windhoek (Namibia)
  - 02-04 May** 7<sup>th</sup> Northern European Conference on Travel Medicine (NECTM7), Stockholm (Sweden)
  - 14-15 May** ICV 2018 : 20<sup>th</sup> International Conference on Veterinary, London (United Kingdom)
  - June** Training of national OIE Focal Points for Animal Disease Notification on WAHIS, Paris (France)
  - 13-14 June** 10<sup>th</sup> Workshop for rabies EU NRL, Brussels (Belgium)
  - 14-16 June** 31<sup>st</sup> Euro Global Summit and Expo on Vaccines & Vaccination, Barcelona (Spain)
  - 20-22 June** Partner for rabies prevention, Wolfsberg (Switzerland)
  - 22-25 June** 5<sup>th</sup> International One Health Congress, Saskatoon (Canada)
  - 02-04 July** 10<sup>th</sup> International Virology Congress, Vienna, Austria
  - 12-14 July** 7<sup>th</sup> Annual World Congress of Infectious Diseases 2018 (WCID-2018), Bangkok (Thailand)
  - 23-24 July** World Vaccines and Immunology Congress, Osaka (Japan)
  - 23-25 July** International Conference on Microbiology and Infectious Diseases, Rome (Italy)
  - 27-31 Aug** 13<sup>th</sup> Conference of the European Wildlife Disease Association (EWDA), Larissa (Greece)
  - 29-30 Aug** 4<sup>th</sup> Annual Congress on Infectious Diseases, Boston (USA)
  - 10-14 Sept** Pan-African Rabies Control Network (PARACON) meeting, Cape Town (South Africa)
  - 17-19 Sept** International Conference on Immunology & Vaccination, Paris (France)
  - 28 Sept** World Rabies Day
  - October** RITA XXIX Conference, Queretaro (Mexico)
  - 12-16 Nov** 15<sup>th</sup> International Symposium of Veterinary Epidemiology and Economics (ISVEE 15), Chiang Mai (Thailand)
  - 13-15 Nov** 9<sup>th</sup> World Gene Convention-2018 (WGC-2017), Singapore (Singapore)
  - December** Training of national OIE Focal Points for Animal Disease Notification on WAHIS, Paris (France)
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- 2019**
  - 24-28 Feb** World congress on vaccine research and awareness, London, UK (United Kingdom)

## Rabies notifications

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### 04 Mar 2018 ▸ Algeria

Rabies - Algeria (02): (Tiaret) livestock, RFI / ال كلب داء (2) الجزائر - ال كلب داء (2) (Tiaret) mouton susp., ICR  
Rage, bétail - Algérie (02): (Tiaret) mouton susp., ICR

### 03 Mar 2018 ▸ Lebanon

Rabies - Lebanon: human, death / ان سان وفاة: بل بنان - ال كلب داء

### 18 Feb 2018 ▸ Tunisia

Rabies - Tunisia: (Nabeul) human, new case / جديدة حالة الإنسان، (نابل) تونس - ال كلب داء /  
Rage, canine, humaine - Tunisie: (Nabeul) fatale

### 05 Feb 2018 ▸ Israel

Rabies - Israel (05): wildlife, spread / ان تشار ب رية، حيوانات: (05) إسرائيل - ال كلب داء /  
Rabies, Israel, (Immediate notification)

### 05 Feb 2018 ▸ Hungary

Rabies, Hungary, (Follow-up report No. 2)

### 29 Jan 2018 ▸ Algeria

Rabies - Algeria: (Bejaia) new outbreak, livestock / مواشي جديد، تفشي (بجاية): الجزائر - ال كلب داء /  
Rage, bétail - Algérie: (Béjaia) nouveau foyer, bilan 2017

### 19 Jan 2018 ▸ Russia

Бешенство, человек, животные - Россия (Крым)

### 12 Jan 2018 ▸ Israel

Rabies - Israel (04): wild, domestic, OIE / ال كلب داء (4) إسرائيل - ال كلب داء (4): wild, domestic, OIE /  
ال حيوانات ية لصحة العالم ال منظمة ال يفة، و ب رية حيوانات: (4) إسرائيل - ال كلب داء (4)

### Ec.europa.eu website rabies notifications

(Total cases of rabies reported in Europe from 01/01/2018 to 12/03/2018)

[https://ec.europa.eu/food/sites/food/files/animals/docs/ad\\_adns\\_outbreaks-per-disease.pdf](https://ec.europa.eu/food/sites/food/files/animals/docs/ad_adns_outbreaks-per-disease.pdf) (This link is also valid for other diseases).

## Rabies publications

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A selection of publications on rabies, diagnosis, virology and vaccinology.

### Animal and human rabies

#### **Application of a quantitative entry assessment model to compare the relative risk of incursion of zoonotic bat-borne viruses into European Union Member States**

Horigan, V., et al. 2017. Microbial Risk Analysis 7, 8-28.  
<http://www.sciencedirect.com/science/article/pii/S2352352217301408>

#### **Assessing the impact of public education on a preventable zoonotic disease: Rabies**

Hasanov, E., et al. 2018. Epidemiology and Infection 146(2), 227-35.  
<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/assessing-the-impact-of-public-education-on-a-preventable-zoonotic-disease-rabies/AB19DAAFADF96B7469C8611917493685>

#### **Assessing the potential impacts of a changing climate on the distribution of a rabies virus vector**

Hayes, M. A., et al. 2018. PLoS ONE 13(2).  
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0192887>

#### **First four Oral Rabies Vaccination campaigns of the red foxes in Greece: evaluating factors and assessment**

Papatheodorou, D. P., et al. 2018. Veterinary Microbiology 216, 107-18.  
<https://www.sciencedirect.com/science/article/pii/S0378113517312026>



### **Review of Rabies Preventions and Control**

Balcha, C., et al. 2017. International Journal of Public Health Science 6(4), 343-50.  
<http://www.iaesjournal.com/online/index.php/IJPHS/article/view/10544>

### **Diagnosis, virology and vaccinology**

#### **Application and Comparative Evaluation of Fluorescent Antibody, Immunohistochemistry and Reverse Transcription Polymerase Chain Reaction Tests for the Detection of Rabies Virus Antigen or Nucleic Acid in Brain Samples of Animals Suspected of Rabies in India**

Prabhu, K., et al. 2018. Veterinary Sciences 5(1), 24.  
<http://www.mdpi.com/2306-7381/5/1/24>

#### **Comparative analysis of Mouse Inoculation Test and Virus Isolation in Cell Culture for rabies diagnosis in animals of Parana, Brazil**

Corona, T. F., et al. 2018. Revista da Sociedade Brasileira de Medicina Tropical 51, 39-43.  
[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0037-86822018000100039&nrm=iso](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0037-86822018000100039&nrm=iso)

#### **Conservation of matrix protein genes in rabies viruses circulating in South Korea since 1999**

Lee, Y. A., et al. 2017. Korean Journal of Veterinary Research 57(4), 249-52.  
<http://kjvr.org/upload/2018/01/03/20180103155818952670.pdf>

#### **Defining objective clusters for rabies virus sequences using affinity propagation clustering**

Fischer, S., et al. 2018. PLoS Neglected Tropical Diseases 12(1), e0006182.  
<http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0006182>

#### **Evaluation of G2 Citric Acid-Based Dendrimer as an Adjuvant in Veterinary Rabies Vaccine**

Asgary, V., et al. 2018. Viral Immunology 31(1), 47-54.  
<http://online.liebertpub.com/doi/10.1089/vim.2017.0024>

#### **Evaluation of in vitro inhibitory potential of type-I interferons and different antiviral compounds on rabies virus replication**

Marosi, A., et al. 2018. Vaccine, in press.  
<http://www.sciencedirect.com/science/article/pii/S0264410X18301555>

#### **Evaluation of Monoclonal Antibody-Based Direct, Rapid Immunohistochemical Test for Rabies Diagnosis**

Feng, Y., et al. 2018. Journal of Virological Methods 256, 12-16.  
<https://www.sciencedirect.com/science/article/pii/S0166093417306535>

#### **Exploring the Feasibility of a New Low Cost Intra-Dermal Pre & Post Exposure Rabies Prophylaxis Protocol in Domestic Bovine in Jawali Veterinary Hospital, District Kangra, Himachal Pradesh, India**

Bharti, O. K., et al. 2018. World Journal of Vaccines 8(1), 13.  
[http://file.scirp.org/Html/2-5100175\\_82278.htm](http://file.scirp.org/Html/2-5100175_82278.htm)

#### **Field and Laboratory Detection of Rabies Antigens in Saliva and Brains of Dogs in Nigeria: An Approach Using Rapid Immunochromatographic Test**

Audu, S. W., et al. 2017. Journal of Microbes and Microbiology Techniques 1(1), 104.  
<http://www.scienceinquest.com/open-access/fulltext/jmmt/field-and-laboratory-detection-of-rabies-antigens-in-saliva-and-brains-of-dogs-in-nigeria.php>

#### **Importin- $\beta$ and exportin-5 are indicators of acute viral infection: Correlation of their detection with commercially available detection kits**

Nuovo, G. J., et al. 2018. Annals of Diagnostic Pathology 34, 36-41.  
<http://www.sciencedirect.com/science/article/pii/S1092913417303696>

#### **In vitro and in vivo evaluation of a single chain antibody fragment generated in planta with potent rabies neutralisation activity**

Phoolcharoen, W., et al. 2018. Vaccine, in press.  
<https://www.sciencedirect.com/science/article/pii/S0264410X18302445>

#### **Lab-Attenuated Rabies Virus Causes Abortive Infection and Induces Cytokine Expression in Astrocytes by Activating Mitochondrial Antiviral-Signaling Protein Signaling Pathway**



Tian, B., et al. 2018. *Frontiers in Immunology* 8(2011).  
<https://www.frontiersin.org/article/10.3389/fimmu.2017.02011>

**Multi-Platform Sequencing Approach Reveals a Novel Transcriptome Profile in Pseudorabies Virus**

Moldovan, N., et al. 2018. *Frontiers in Microbiology* 8(2708).  
<https://www.frontiersin.org/article/10.3389/fmicb.2017.02708>

**Rabies vaccines and immunoglobulins: WHO position: Summary of 2017 updates**

World Health Organization. 2018. 4 p.  
[http://www.who.int/rabies/resources/who\\_cds\\_ntd\\_nzd\\_2018.04/en/](http://www.who.int/rabies/resources/who_cds_ntd_nzd_2018.04/en/)

**Recombinant rabies virus with the glycoprotein fused with a DC-binding peptide is an efficacious rabies vaccine**

Zhang, Y., et al. 2018. *Oncotarget* 9(1), 831-41.  
[http://www.oncotarget.com/index.php?journal=oncotarget&page=article&op=view&path\[\]=23160&path\[\]=73023](http://www.oncotarget.com/index.php?journal=oncotarget&page=article&op=view&path[]=23160&path[]=73023)

**Recombination in the rabies virus and other lyssaviruses**

Deviatkin, A. A., et al. 2018. *Infection, Genetics and Evolution* 60, 97-102.  
<https://www.sciencedirect.com/science/article/pii/S1567134818300728>

**Revisiting rabies virus neutralizing antibodies through infecting BALB/c mice with live rabies virus**

Qin, Y., et al. 2018. *Virus Research* 248, 39-43.  
<http://www.sciencedirect.com/science/article/pii/S0168170217305816>

**Study Report on Retrospective Clinical Follow-up of Post Exposure Prophylaxis with Inj. Anti Rabies Vaccine (ARV) or Inj. Anti Rabies Vaccine (ARV) + Inj. Rabies Immunoglobulin (RIG) in Animal Bite Patients Attending at BITID**

Nasreen, D. H., et al. 2018. *ABC Research Alert* 6(1), 6.  
<https://journals.abc.us.org/index.php/abcra/article/view/1041>

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EURL for rabies - Anses–Nancy Laboratory for rabies and wildlife

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