



Centro de Documentación / Documentation Center

Objetivos/ Objectives

Identificar y atender las necesidades de información, adquisición, organización, almacenamiento, generación, uso y difusión de la información en salud pública veterinaria y proveer recursos bibliográficos técnicos-científicos al equipo de profesionales de la unidad y a los usuarios externos.

Identify and take care of the needs of information, acquisition, organization, storage, generation, use and diffusion of the information in veterinary public health and provide technical scientific bibliographical resources to the professional staff of the unit and to the users external.

Temas de interés general / Subjects of general interest



La **COSALFA** - Reunión Ordinaria de la Comisión Sudamericana para la Lucha contra la Fiebre Aftosa tendrá su **36a. edición** en **Colombia**, en la ciudad de **Cartagena de Índias**, en los días **23 y 24 de abril de 2009**.

Previamente a la COSALFA, en los días **20 y 21**, se realizará en el mismo lugar el Seminario Internacional "**Países y Zonas Libres, Logros y Peligros: una visión de futuro**".

La **COSALFA** esta siendo organizada bajo el liderazgo del Centro Panamericano de Fiebre Aftosa (**PANAFTOSA**) de la Organización Panamericana de Salud/Organización Mundial de Salud (**OPS/OMS**) junto con el Instituto Colombiano Agropecuario (**ICA**)

http://www.panaftosa.org.br/Comp/eventos/COSALFA_36/espanol/default_e.html



A **COSALFA** - Reunião Ordinária da Comissão Sulamericana para a Luta contra a Febre Aftosa terá sua

36a. edição na Colombia, na cidade de **Cartagena de Índias**, nos dias **23 e 24 de abril de 2009**. Previamente à COSALFA, nos dias **20 e 21**, será realizado no mesmo local, o Seminário Internacional **"Países e Zonas Livres, Resultados e Perigos: uma visão de futuro"**.

COSALFA está sendo organizada sob a liderança do Centro Panamericano de Febre Aftosa (**PANAFTOSA**) da Organização Pan-americana da Saúde/Organização Mundial da Saúde (**OPAS/OMS**) juntamente com o Instituto Colombiano Agropecuario (**ICA**).

http://www.panaftosa.org.br/Comp/eventos/COSALFA_36/portugues/default_p.html



The **36th. edition of COSALFA** - Meeting of South American Commission for the Fight Against Foot-and-Mouth Disease will be held at **Colombia**, in the city of **Cartagena de Índias**, on **April, 23rd and 24th, 2009**.

Previously to the COSALFA, **April 20th and 21st**, it will be carried out in the same place the International Seminar **"Countries and Free Areas, Achievements and Dangers: a vision of future"**.

The COSALFA is being organized under the leadership of the Pan American Foot-and-Mouth Disease Center (**PANAFTOSA**) of the Pan American Health Organization/World Health Organization (**PAHO/WHO**) together with the Livestock Colombian Institute (**ICA**)

http://www.panaftosa.org.br/Comp/eventos/COSALFA_36/english/default_i.html

Informaciones disponibles en formato electrónico / Information available in electronic format

Encefalopatia Espongiforme Bovina (BSE) / Bovine Spongiform Encephalopathy (BSE)



Continuous monitoring of bovine spongiform encephalopathy rapid test performance by weak positive tissue controls and quality control charts

Seuberlich T, Hofmann MA, Juillerat V, Boujon P, Zurbriggen A, Doherr MG
Vet Microbiol. 2009 Mar; 134 (3-4): 218-26

Bovine spongiform encephalopathy (BSE) rapid tests and routine BSE-testing laboratories underlie strict regulations for approval. Due to the lack of BSE-positive control samples, however, full assay validation at the level of individual test runs and continuous monitoring of test performance on-site is difficult. Most rapid tests use synthetic prion protein peptides, but it is not known to which extent they reflect the assay performance on field samples, and whether they are sufficient to indicate on-site assay quality problems. To address this question we compared the test scores of the provided kit peptide controls to those of standardized weak BSE-positive tissue samples in individual test runs as well as continuously over time by quality control charts in two widely used BSE rapid tests. Our results reveal only a weak correlation between the weak positive tissue control and the peptide control scores. We identified kit-lot related shifts in the assay performances that were not reflected by the peptide control scores. Vice versa, not all shifts indicated by the peptide control scores indeed reflected a shift in the assay performance. In conclusion these data highlight that the use of the kit peptide controls for continuous quality control purposes may result in unjustified rejection or acceptance of test runs. However, standardized weak positive tissue controls in combination with Shewhart-CUSUM control charts appear to be reliable in continuously monitoring assay performance on-site to identify undesired deviations.

Text in English

Enfermedades Desatendidas / Neglected Diseases



Social research on neglected diseases of poverty: continuing and emerging themes

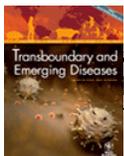
Manderson L, Aagaard-Hansen J, Allotey P, Gyapong M, Sommerfeld J
PLoS Negl Trop Dis. 2009 Feb; 3 (2): e332

Neglected tropical diseases (NTDs) exist and persist for social and economic reasons that enable the vectors and pathogens to take advantage of changes in the behavioral and physical environment. A social science perspective on diseases of poverty is critical to ensure that equity remains an underlying principle in policy development, research, advocacy/dialogue, legislation, resource allocation, planning, implementation, and monitoring of programs and projects.

Text in English

<http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=2643480&blobtype=pdf>

Fiebre aftosa / Foot and Mouth Disease



Immune Response in Goats to Two Commercial Foot-and-Mouth Disease Vaccines and the Assessment of Maternal Immunity in Their Kids

Madhanmohan M, Tresamol PV, Saseendranath MR
Transbound Emerg Dis. 2009 Mar; 56 (1-2): 49-53

In this investigation, the immune response of goats to two commercial foot-and-mouth disease vaccines (FMDV) was compared. Highest mean antibody titre was observed on days 60 and 21 in goats vaccinated with two doses of algel (group 1) and oil adjuvant (group 2) quadrivalent vaccines, respectively. There was no significant ($P > 0.05$) difference in mean antibody titre between the two vaccine groups. However, the antibody titres for type O fell below the protective titres by day 180 and 270 for groups 1 and 2, respectively. The mean maternal antibody titre was 0.610 ± 0.0 immediately after birth. The highest mean maternal antibody titre was observed at 24 h after birth for all serotypes and then steadily declined. The maternal immunity of kids born to the vaccinated does was persistent up to 90 days after birth. There was no significant ($P > 0.05$) difference in mean maternal antibody titre between the two groups of goats for all four serotypes throughout the study period. The protective maternal antibody titre for serotype O was maintained only up to 1 week after birth, where for the other three serotypes A, C and Asia1 the protective maternal antibody titre was maintained up to 4 weeks of birth. Oil adjuvant vaccine may be used for control of FMDV in goats and the animals have to be revaccinated after 9 months, whereas the kids must be vaccinated at around 3-4 months after birth. Goats must be included in the FMDV control programmes and the same schedule for cattle can be followed.

Text in English

<http://www3.interscience.wiley.com/cgi-bin/fulltext/121680760/PDFSTART>



Quantitative analysis of foot-and-mouth disease virus RNA duration in tissues of experimentally infected pigs

Zhang Z, Bashiruddin JB
Vet J. 2009 April; 180 (1): 130-132

Quantitative analysis of the duration of foot-and-mouth disease virus (FMDV) RNA in tissues was carried out in pigs experimentally infected with FMDV O UKG 34/2001 and O SKR 1/2000. The results showed that the viral RNA was still detectable in cervical lymph nodes, mandibular lymph nodes and tonsils collected from both inoculated and contact pigs at 28 days post infection. There was no detectable viral RNA in the soft palate or pharynx, which are thought to be tissue sites for viral persistence in cattle.

Further study is needed to clarify whether this difference has significance in terms of viral clearance in pigs.

Text in English



A Review of Network Analysis Terminology and its Application to Foot-and-Mouth Disease Modelling and Policy Development

Dubé C, Ribble C, Kelton D, McNab B.

Transbound Emerg Dis. 2009 Apr; 56 (3): 73-85

Livestock movements are important in spreading infectious diseases and many countries have developed regulations that require farmers to report livestock movements to authorities. This has led to the availability of large amounts of data for analysis and inclusion in computer simulation models developed to support policy formulation. Social network analysis has become increasingly popular to study and characterize the networks resulting from the movement of livestock from farm-to-farm and through other types of livestock operations. Network analysis is a powerful tool that allows one to study the relationships created among these operations, providing information on the role that they play in acquiring and spreading infectious diseases, information that is not readily available from more traditional livestock movement studies. Recent advances in the study of real-world complex networks are now being applied to veterinary epidemiology and infectious disease modelling and control. A review of the principles of network analysis and of the relevance of various complex network theories to infectious disease modelling and control is presented in this paper.

Text in English

Influenza Aviar / Avian Influenza



Structural and functional bases for broad-spectrum neutralization of avian and human influenza A viruses

Sui J, Hwang WC, Perez S, Wei G, Aird D, Chen LM, Santelli E, Stec B, Cadwell G, Ali M, Wan H, Murakami A, Yammanuru A, Han T, Cox NJ, Bankston LA, Donis RO, Liddington RC, Marasco WA

Nat Struct Mol Biol. 2009 Mar; 16 (3): 265-73

Influenza virus remains a serious health threat, owing to its ability to evade immune surveillance through rapid genetic drift and reassortment. Here we used a human non-immune antibody phage-display library and the H5 hemagglutinin ectodomain to select ten neutralizing antibodies (nAbs) that were effective against all group 1 influenza viruses tested, including H5N1 'bird flu' and the H1N1 'Spanish flu'. The crystal structure of one such nAb bound to H5 shows that it blocks infection by inserting its heavy chain into a conserved pocket in the stem region, thus preventing membrane fusion. Nine of the nAbs employ the germline gene VH1-69, and all seem to use the same neutralizing mechanism. Our data further suggest that this region is recalcitrant to neutralization escape and that nAb-based immunotherapy is a promising strategy for broad-spectrum protection against seasonal and pandemic influenza viruses.

Text in English

<http://www.nature.com/nsmb/journal/v16/n3/pdf/nsmb.1566.pdf>



Vaccinia virus-based multivalent H5N1 avian influenza vaccines adjuvanted with IL-15 confer sterile cross-clade protection in mice

Poon LL, Leung YH, Nicholls JM, Perera PY, Lichy JH, Yamamoto M, Waldmann TA, Malik Peiris JS, Perera LP

J Immunol. 2009 Mar; 182 (5): 3063-71

The potential for a global influenza pandemic remains significant with epidemiologic and ecologic indicators revealing the entrenchment of the highly pathogenic avian influenza A H5N1 in both wild bird

populations and domestic poultry flocks in Asia and in many African and European countries. Indisputably, the single most effective public health intervention in mitigating the devastation such a pandemic could unleash is the availability of a safe and effective vaccine that can be rapidly deployed for pre-exposure vaccination of millions of people. We have developed two vaccinia-based influenza vaccines that are molecularly adjuvanted with the immune stimulatory cytokine IL-15. The pentavalent Wyeth/IL-15/5Flu vaccine expresses the hemagglutinin, neuraminidase, and nucleoprotein derived from the H5N1 influenza virus A/Vietnam/1203/2004 and the matrix proteins M1 and M2 from the H5N1 A/CK/Indonesia/PA/2003 virus on the backbone of a currently licensed smallpox vaccine. The bivalent MVA/IL-15/HA/NA vaccine expresses only the H5 hemagglutinin and N1 neuraminidase on the modified vaccinia virus Ankara (MVA) backbone. Both vaccines induced cross-neutralizing Abs and robust cellular immune responses in vaccinated mice and conferred sterile cross-clade protection when challenged with the H5N1 virus of a different clade. In addition to having potential as a universal influenza vaccine, in the event of an impending pandemic the Wyeth/IL-15/5Flu is also readily amenable to bulk production to cover the global population. For those individuals for whom the use of the Wyeth vaccine is contraindicated, our MVA/IL-15/HA/NA offers a substitute or a prevaccine to be used in a mass vaccination campaign similar to the smallpox eradication campaigns of few decades ago.

Text in English

Inocuidad de los Alimentos / Food Safety



Analysis of foodborne outbreak data reported internationally for source attribution

Greig JD, Ravel A

Int J Food Microbiol. 2009 Mar; 130 (2): 77-87

Analysis of foodborne outbreak data is one approach to estimate the proportion of human cases of specific enteric diseases attributable to a specific food item (food attribution). Although we recognize that for a variety of reasons reported outbreaks represent only a small portion of all actual outbreaks, using outbreak data for food attribution is the only methodological approach where, theoretically, there is an actual direct link between the pathogen, its source and each infected person. The purpose of this study was to explore the usefulness of foodborne outbreak data extracted from publicly available international electronic reports and publications to provide estimates of food attribution, to derive and compare these estimates between regions, while improving the understanding of the pathogen/food vehicle combination. Electronic reports and publications of foodborne outbreaks that occurred globally since the 1980s were systematically scanned and their data were extracted and compiled in a database. A system of food categorization was developed and food vehicles assigned accordingly. The association between the aetiology and the food source was statistically described for outbreaks with both reported aetiology and incriminated food vehicle. Differences in associations between Australia and New Zealand, Canada, the European Union (EU) and the United States (US) were explored using multiple correspondence analysis and were formally tested between the EU and the US for selected pathogens and food sources. As a result, the food and aetiology cross tabulation of 4093 foodborne outbreaks that occurred globally between 1988 and 2007 is presented and discussed. For a few aetiologies and some foods the association is very specific. The lack of a specific association between the other foods and aetiologies highlights the potential roles of cross-contamination, environmental contamination and the role of the infected foodhandler along the food chain from farm to fork. Detailed analysis of the four regions highlighted some specific associations: Salmonella Enteritidis outbreaks occurred relatively often in the EU states with eggs as the most common source; Campylobacter associated outbreaks were mainly related to poultry products in the EU and to dairy products in the US; there was an association between Escherichia coli outbreaks and beef in Canada; and while Salmonella Typhimurium outbreaks were relatively common in Australia and New Zealand, across all regions, Salmonella was associated with a variety of food groups. The value and limitations of the study are discussed, as well as the extrapolation of the food attribution estimates beyond their outbreak context.

Text in English



Testing: LC/MS analysis for melamine and cyanuric acid in foodstuffs

Heller DN, Nochetto B

Food Safety Magazine 2009 Feb / Mar

Analytical methods for melamine and cyanuric acid will continue to be developed and refined because there are many gaps in our understanding of how melamine and cyanuric acid behave once ingested. A recent World Health Organization report underscores the need for further research, and some of this work is already under way at the FDA Center for Veterinary Medicine. The "dilute-and-shoot" method based on ZIC-HILIC LC/MS is applicable in both regulatory and research environments. While this method serves an important regulatory function, it has become clear that new methods are also needed for routine testing of nutritional content. Tests for protein content need to be made specific for various proteinaceous compounds, rather than relying on a non-specific test for total nitrogen. These methods will need to be put into general use so that food producers, processors and distributors may regulate themselves. Furthermore, the current situation creates an impetus to search for other potential contaminants that might be used to circumvent the existing system of food safety controls.

Text in English

<http://foodsafetymagazine.com/article.asp?id=2797&sub=sub1>

Rabia / Rabies



Molecular characterization of Rabies Virus isolates from dogs and crab-eating foxes in Northeastern Brazil

Carnieli P Jr, Castilho JG, Fahl WD, Vêras NM, Carrieri ML, Kotait I

Virus Res. 2009 Jan

Thirty-eight samples of Rabies Virus isolated from dogs and crab-eating foxes (*Cerdocyon thous*) in Northeastern Brazil were characterized genetically by analyzing the G gene and the psi region. The results show that there are two groups of Rabies Virus lineages circulating among domestic and wild animals in the region. The topologies of the phylogenetic trees of the G gene and psi region are similar and reveal the existence of geographic groups. The genetic diversity of the lineages isolated from wild animals (wild group) was approximately twice that of the lineages isolated from domestic animals (domestic group), and the genetic distance between the two groups was 9.93%. Polymorphism analysis revealed specific intra- and inter-group molecular signatures for both the G gene and psi region. Together with the analysis of the N gene undertaken previously, the results of this study confirm the existence of a Rabies Virus phylogroup in Northeastern Brazil (NB) circulating in the *C. thous* population, making this species a rabies biotype in the region.

Text in English (article in press)



Nucleocapsid of rabies virus improve immune response of an inactivated avian influenza vaccine

Loza-Rubio E, Molina-Güarneros J, Montaña-Hirose JA

Vet Res Commun. 2009 Jan

The purpose of this study was to determine if nucleocapsid of rabies virus could improve the immune response (humoral and protective) of chickens vaccinated against avian influenza with an inactivated avian influenza experimental vaccine (AIV). On the other hand, AIV with and without NC was compared with an inactivated oil emulsion avian influenza commercial vaccine (CV) virus, currently used in Mexico. Groups of 8 day old chickens were vaccinated intracutaneously with an AIV (group 1); group 2, AIV supplemented with 20 mug of nucleocapsid of rabies virus (NC); Group 3, commercial vaccine (CV) and control groups (4 and 5) with 20 mug of NC and non-infected allantoic fluid, respectively. CV showed a better antibody-mediated response ($p < 0.001$) after and before challenging; which correlated with the

best protection; while NC improved the protection in comparison with group 1. This is the first report on the potential utility of the rabies virus N protein to improve immune response in domestic species.
Text in English (article in press)



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