



Centro de Documentación / Documentation Center

Objetivos/ Objectives

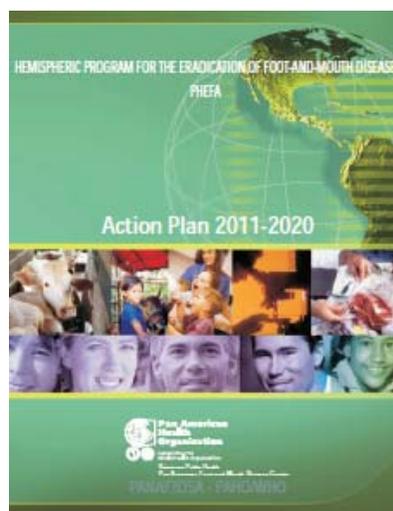
Identificar y atender las necesidades de información, adquisición, organización, almacenamiento, generación, uso y difusión de la información en salud pública veterinaria y proveer recursos bibliográficos técnicos-científicos al equipo de profesionales de la unidad y a los usuarios externos.

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

Programa Hemisférico de Erradicación de la Fiebre Aftosa - PHEFA

Plan de Acción del PHEFA Período 2011-2020



<http://bvs1.panaftosa.org.br/local/File/textoc/PHEFA-PlanAccion-2011-2020esp.pdf> - esp
<http://bvs1.panaftosa.org.br/local/File/textoc/PHEFA-PlanAccion-2011-2020ing.pdf> - eng
<http://bvs1.panaftosa.org.br/local/File/textoc/PHEFA-PlanAccion-2011-2020port.pdf> - por

Cambio Climático / Climate Change



Cambio climático: ¿Cómo afecta la producción ganadera?

Garzón Alfonso JE

REDVET 2011; 12 (8): 1-8

El cambio climático es un proceso inequívoco; se dice cómo la producción bovina estimula uno de los factores que lo produce: el efecto invernadero; sin embargo es importante conocer su efecto contrario: cómo el cambio climático afecta la ganadería. Esto puede tomarse desde varios puntos de vista: nutricional (Refiriéndose a la pérdida de energía dietaria (de 7,1 a 9,5% de la energía consumida), que significa para el bovino consumir pasturas más lignificadas, resultado del incremento de temperatura y precipitación, a costa de la producción de carne y/o leche), sanitario (el efecto climático afecta las poblaciones de insectos plaga, moviéndolas a través de los pisos térmicos), social (con el cambio en el ambiente vienen los cambios de zonas de confort de las plantas, cambiando las zonas de cultivo para mejorar la producción, al igual que el incremento en la incidencia de heladas, sequías e inundaciones) y ambiental (la ganadería y agricultura producen gases de efecto invernadero (metano y óxido nitroso) pero también son de los pocos sectores económicos que tienen la posibilidad de disminuir la emisión de estos gases y extraer CO₂ de la atmósfera mediante prácticas de mitigación). Silvopastoreo, uso eficiente de fertilizantes, implementación de leguminosas dentro de la pastura, renovación de praderas o pastoreo rotacional, son muchas de las prácticas que pueden darse para contrarrestar estos efectos climáticos adversos sobre la producción, con lo cual se logra un incremento productivo y manejo eficiente de los recursos significando en una ganancia para el medio ambiente y para el productor.

Text in Spanish

<http://www.veterinaria.org/revistas/redvet/n080811/081108.pdf>

Enfermedad de Chagas / Chagas Diseases



Chagas disease at the crossroad of international migration and public health policies: why a national screening might not be enough

Di Girolamo C, Bodini C, Marta BL, Ciannameo A, Cacciatore F

Euro Surveill. 2011 Sep; 16 (37)

Since the year 2000, Chagas disease, traditionally known as a rural Latin American affliction, has been rising in the ranking of international health priorities due to the growing migration flows from endemic areas to non-endemic ones. Using the example of Italy and reporting preliminary results of a study carried out in the district of Bologna, the paper will argue that a disease-centred public health approach might be inadequate when dealing with complex and uncertain situations, in which complete statistical data are not available or not reliable, and in which the involved actors, health professionals on the one side, migrants on the other, appear to be unaware of the issue, or might even be denying it. In such a context, an effective public health approach should be capable of crossing disciplinary boundaries and bridging the gap between health services and communities, as well as between health and social issues.

Text in English

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19965>



The application of epidemiology in aquatic animal health -opportunities and challenges

Peeler EJ, Taylor NG

Vet Res. 2011 Aug; 42 (1): 94

ABSTRACT: Over recent years the growth in aquaculture, accompanied by the emergence of new and transboundary diseases, has stimulated epidemiological studies of aquatic animal diseases. Great potential exists for both observational and theoretical approaches to investigate the processes driving emergence but, to date, compared to terrestrial systems, relatively few studies exist in aquatic animals. Research using risk methods have assessed routes of introduction of aquatic animal pathogens to facilitate safe trade (e.g. import risk analyses) and support biosecurity. Epidemiological studies of risk factors for disease in aquaculture (most notably Atlantic salmon farming) have effectively supported control measures. Methods developed for terrestrial livestock diseases (e.g. risk-based surveillance) could improve the capacity of aquatic animal surveillance systems to detect disease incursions and emergence. The study of disease in wild populations presents many challenges and the judicious use of theoretical models offers some solutions. Models, parameterised from observational studies of host pathogen interactions, have been used to extrapolate estimates of impacts on the individual to the population level. These have proved effective in estimating the likely impact of parasite infections on wild salmonid populations in Switzerland and Canada (where the importance of farmed salmon was investigated). A lack of data is often the key constraint in the application of new approaches to surveillance and modelling. The need for epidemiological approaches to protect aquatic animal health will inevitably increase in the face of the combined challenges of climate change, increasing anthropogenic pressures, limited water sources and the growth in aquaculture.

Text in English

<http://www.veterinaryresearch.org/content/pdf/1297-9716-42-94.pdf>

Influenza Aviar / Avian Influenza



Avian influenza A (H5N1) in humans: new insights from a line list of World Health Organization confirmed cases, September 2006 to August 2010

Fiebig L, Soyka J, Buda S, Buchholz U, Dehnert M, Haas W

Euro Surveill. 2011 Aug; 16 (32). pii: 19941

The threat of avian influenza (AI) viruses to humans in Europe in 2005 prompted the Robert Koch Institute to establish a routine monitoring instrument condensing information on all human AI cases worldwide reported from the World Health Organization (WHO) and other sources into a line list for further analysis. The 235 confirmed AI cases captured from September 2006 to August 2010 had a case fatality rate of 56% (132/235), ranging from 28% (27/98) in Egypt to 87% (71/82) in Indonesia. In a multivariable analysis, odds of dying increased by 33% with each day that passed from symptom onset until hospitalisation (OR: 1.33, $p=0.002$). In relation to children of 0–9 years, odds of fatal outcome were more than six times higher in 10–19 year-olds and 20–29 year-olds (OR: 6.06, 95% CI: 1.89–19.48, $p=0.002$ and OR: 6.16, 95% CI: 2.05–18.53, $p=0.001$, respectively), and nearly five times higher in patients of 30 years and older (OR: 4.71, 95% CI: 1.56–14.27, $p=0.006$) irrespective of the country, which had notified WHO of the cases. The situation in Egypt was special in that case number and incidence in children were more than twice as high as in any other age group or country. With this study, we show that data from the public domain yield important epidemiological information on the global AI situation. This approach to establish a line list is time-consuming but a line list is a prerequisite to such evaluations. We thus would like to encourage the placing of a publicly accessible line list of anonymised human AI cases, e.g. directly by WHO. This might enhance our understanding of AI in humans and permit the rapid detection of changes in its epidemiology with implications for human

health.

Text in English

<http://www.eurosurveillance.org/images/dynamic/EE/V16N32/art19941.pdf>



Understanding the ecological drivers of avian influenza virus infection in wildfowl: a continental-scale study across Africa

Gaidet N, Caron A, Cappelle J, Cumming GS, Balança G, Hammoumi S, Cattoli G, Abolnik C, Servan de Almeida R, Gil P, Fereidouni SR, Grosbois V, Tran A, Mundava J, Fofana B, Ould El Mamy AB, Ndlovu M, Mondain-Monval JY, Triplet P, Hagemeyer W, Karesh WB, Newman SH, Dodman T
Proc Biol Sci. 2011 Sep

Despite considerable effort for surveillance of wild birds for avian influenza viruses (AIVs), empirical investigations of ecological drivers of AIV prevalence in wild birds are still scarce. Here we used a continental-scale dataset, collected in tropical wetlands of 15 African countries, to test the relative roles of a range of ecological factors on patterns of AIV prevalence in wildfowl. Seasonal and geographical variations in prevalence were positively related to the local density of the wildfowl community and to the wintering period of Eurasian migratory birds in Africa. The predominant influence of wildfowl density with no influence of climatic conditions suggests, in contrast to temperate regions, a predominant role for inter-individual transmission rather than transmission via long-lived virus persisting in the environment. Higher prevalences were found in *Anas* species than in non-*Anas* species even when we account for differences in their foraging behaviour (primarily dabbling or not) or their geographical origin (Eurasian or Afro-tropical), suggesting the existence of intrinsic differences between wildfowl taxonomic groups in receptivity to infection. Birds were found infected as often in oropharyngeal as in cloacal samples, but rarely for both types of sample concurrently, indicating that both respiratory and digestive tracts may be important for AIV replication.

Text in English (article in press)

<http://rspb.royalsocietypublishing.org/content/early/2011/09/09/rspb.2011.1417.full.pdf+html>

Fiebre Aftosa / Foot and Mouth Disease



Characterization of foot-and-mouth disease virus from outbreaks in Ecuador during 2009-2010 and cross-protection studies with the vaccine strain in use in the region

Maradei E, Beascochea CP, Malirat V, Salgado G, Seki C, Pedemonte A, Bonastre P, D'Aloia R, La Torre JL, Mattion N, Toledo JR, Bergmann IE
Vaccine 2011 Sep

During the years 2009 and 2010 relevant epidemic waves of foot-and-mouth disease (FMD) serotype O occurred in Ecuador, representing a great drawback for the last stages of the ongoing eradication program in South America. This study describes the molecular and antigenic characterizations of 29 isolates collected from various regions in the country and their relationship to the vaccine strain. The phylogenetic tree derived from sequences spanning the complete VP(1) protein showed that, despite the widespread origin of the viruses, they were all related among themselves and to previous isolates occurring in 2008, with around 10% difference with the vaccine strain O1/Campos. The high level of sequence conservation among different isolates in the various regions of Ecuador pointed to a common origin, suggesting animal movements as possible sources of viral spread. Monoclonal antibody profiling grouped the isolates in two major reactivity patterns which differed from that of the vaccine strain. Both profiles showed loss of reactivity with the same four MAbs, three of them with neutralizing properties. Additional sites were lost in the profile representing most of the 2010s viral samples. Levels of protective antibodies induced by the vaccine against the field strains assessed by in vitro vaccine matching studies also pointed to an increased temporal pattern of loss of a protective response. Moreover, results

obtained with in vivo challenge in the protection against podal generalization test in cattle, clearly indicated lack of appropriate protection of the Ecuadorian field strains by the vaccine virus in use, which in the case of a 2010 variant was observed even after revaccination.

Text in English (article in press)



CpG oligodeoxynucleotide and montanide ISA 206 adjuvant combination augments the immune responses of a recombinant FMDV vaccine in cattle

Ren J, Yang L, Xu H, Zhang Y, Wan M, Liu G, Zhao L, Wang L, Yu Y
Vaccine. 2011 Aug

Foot-and-mouth disease (FMD) is a highly contagious disease of cloven-hoofed animals. To prevent the spread of FMDV, inactivated virus vaccines are used to immunize animals in developing countries. However, there are safety concerns. In addition, it is difficult to distinguish the vaccinated animals from those naturally infected ones. In our lab, we have developed a recombinant FMDV vaccine named A7. A7 contained multiple B cell and T cell epitopes, which reside in a capsid protein (VP1) of FMDV. To enhance its immunogenicity, A7 was formulated with CpG ODN RW03 in combination with Montanide ISA 206 (ISA), and the resultant vaccine (A7+ISA+CpG ODN RW03) was used to immunize mice and cattle. It was found that CpG ODN RW03 and ISA combination could facilitate A7 to induce a vigorous and long-lasting specific antibody response in mice and cattle. After FMDV challenge, 80% (4/5) of the calves immunized with A7+ISA+CpG ODN RW03 were protected, which was superior to those immunized with A7+ISA (25%, 1/4) or inactivated FMDV vaccine (50%, 2/4). These findings suggest that CpG ODN RW03 could be used with Montanide ISA 206 as a potent adjuvant for recombinant FMDV in cattle.

Text in English (article in press)



Development of a serotype colloidal gold strip using monoclonal antibody for rapid detection type Asia1 foot-and-mouth disease

Lin T, Shao JJ, Du JZ, Cong GZ, Gao SD, Chang H.
Virol J. 2011 Sep; 8 (1): 418

BACKGROUND: In this study, we developed a rapid, one step colloid gold strip (CGS) capable of specifically detecting type Asia1 foot-and-mouth disease virus (FMDV). We have produced two monoclonal antibodies (mAb) to type Asia1 FMD (named 1B8 and 5E2). On the test strip, the purified 1B8 labelled with the colloidal gold was used as the detector, and the purified 5E2 and goat anti-mouse antibodies were wrapped onto nitrocellulose (NC) membranes as the test and the control line, respectively. The rapid colloidal gold serotype diagnostic strip was housed in a plastic case.

RESULTS: In specificity and sensitivity assay, there was no cross-reaction of the antigen with the other type of FMD and SVDV. The detection sensitivity was found to be as high as 10⁻⁵ dilution of Asia1/JSL/05 (1x10⁷.2TCID₅₀/50μL). There was excellent agreement between the results obtained by CGS and reverse indirect hemagglutination assay (RIHA), and the agreement can reach to 98.75%.

CONCLUSION: We developed colloidal gold strips that have good qualities and does not require specialized equipment or technicians. This method provided a feasible, convenient, rapid, and effective for detecting type Asia1 FMDV in the fields.

Text in English

<http://www.virologyj.com/content/pdf/1743-422X-8-418.pdf>



Developing vaccines against foot-and-mouth disease and some other exotic viral diseases of livestock

Paton DJ, Taylor G

Philos Trans R Soc Lond B Biol Sci. 2011 Oct; 366 (1579): 2774-81

Vaccines remain the main tool for the control of livestock viral diseases that pose a serious threat to animal and occasionally human health, reduce food security, distort trade in animals and their products, and undermine agricultural development in poor countries. Globalization and climate change increase the likelihood for new patterns of emergence and spread of livestock viruses. Conventionally attenuated and killed virus products have had spectacular success, and recent examples include the global eradication of rinderpest and the control of bluetongue in the UK and northern Europe. However, in many cases, livestock vaccines could benefit from improvement in some properties (e.g. stability, speed of onset and duration of immunity, and breadth of cross-protection to different serotypes or strains) and in some cases are not available at all. Compared with human vaccines, uptake of livestock products is highly cost-sensitive and their use may also need to be compatible with post-vaccination screening methods to determine whether or not animals continue to be infected. Requirements and prospects for new or improved vaccines are described for some priority viral diseases with potential for transboundary spread, particularly for foot-and-mouth disease.

Text in English



Role of macrophages in early protective immune responses induced by two vaccines against foot and mouth disease

Quattrocchi V, Langellotti C, Pappalardo JS, Olivera V, Di Giacomo S, van Rooijen N, Mongini C, Waldner C, Zamorano PI Antiviral Res. 2011 Aug

Foot and Mouth Disease (FMD) is an acute disease of cloven-hoofed species. We studied the protection and early immune response induced in the murine model by vaccines formulated with inactivated virus and two different adjuvants.

The presence of IMS12802PR or ISA206VG adjuvants yielded protection against viral challenge at early times post vaccination and induced FMDV-specific, but non neutralizing, antibody titers. *In vivo* macrophage depletion in vaccinated mice severely decreased the protection levels after virus challenge, indicating a central role of this cell population in the response elicited by the vaccines. Accordingly, opsonophagocytosis of FITC-labelled virus was augmented in 802-FMDVi and 206-FMDVi vaccinated mice. These results demonstrate the ability of the studied adjuvants to enhance the protective responses of these inactivated vaccines without the increase in seroneutralizing antibodies and the main role of opsonization and phagocytosis in the early protective immune responses against FMD infection in the murine model.

Text in English (article in press)



Vesicular stomatitis virus glycoprotein G carrying a tandem dimer of foot and mouth disease virus antigenic site A can be used as DNA and peptide vaccine for cattle

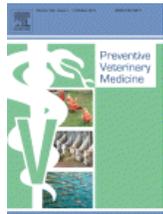
Capozzo AV, Wilda M, Bucafusco D, de Los Angeles Lavoria M, Franco-Mahecha OL, Mansilla FC, Pérez-Filgueira DM, Grigera PR Antiviral Res. 2011 Aug

Effective Foot and Mouth Disease Virus (FMDV) peptide vaccines for cattle have two major constraints: resemblance of one or more of the multiple conformations of the major VP1 antigenic sites to induce neutralizing antibodies, and stimulation of T cells despite the variable bovine-MHC polymorphism. To overcome these limitations, a chimeric antigen was developed, using Vesicular Stomatitis Virus

glycoprotein (VSV-G) as carrier protein of an in tandem-dimer of FMDV antigenic site A (ASA), the major epitope on the VP1 capsid protein (aa 139-149, FMDV-C3 serotype). The G-ASA construct was expressed in the Baculovirus system to produce a recombinant protein (DEL BAC) (cloned in pCDNA 3.1 plasmid) (Invitrogen Corporation, Carlsbad, CA) and was also prepared as a DNA vaccine (pC DEL). Calves vaccinated with both immunogens elicited antibodies that recognized the ASA in whole virion and were able to neutralize FMDV infectivity in vitro. After two vaccine doses, DEL BAC induced serum neutralizing titers compatible with an "expected percentage of protection" above 90%. Plasmid pC DEL stimulated FMDV specific humoral responses earlier than DEL BAC, though IgG1 to IgG2 ratios were lower than those induced by both DEL BAC and inactivated FMDV-C3 after the second dose. DEL BAC induced FMDV-specific secretion of IFN- γ in peripheral blood mononuclear cells of outbred cattle immunized with commercial FMDV vaccine, suggesting its capacity to recall anamnestic responses mediated by functional T cell epitopes. The results show that exposing FMDV-VP1 major neutralizing antigenic site in the context of N-terminal sequences of the VSV G protein can overcome the immunological limitations of FMDV-VP1 peptides as effective protein and DNA vaccines for cattle.

Text in English (article in press)

Georreferenciamiento – Ganaderia / Georeferencing – Livestock



Use of satellite images for geographical localization of livestock holdings in Brazil

Carvalho LF, Melo CB, McManus C, Haddad JP.
Prev Vet Med. 2011 Sep

Google Earth(®) provides free access to satellite images and has been used in several areas that require cartographic information. The present study assessed the inconsistencies between geo-referencing of livestock premises by GPS and the acquisition of geographic coordinates by remote sensing (RS) images provided by Google Earth(®) in the Brazilian states of Bahia, Distrito Federal, Minas Gerais and Parana. The overall mean and standard deviation of the distances in the study were 30.98 ± 19.89 m. The mean distance differences between the two techniques were, for these states, 37.20 ± 19.75 m, 28.38 ± 17.38 m, 31.61 ± 15.72 m, 28.43 ± 24.30 m, respectively. Despite the fact that there is variation between the geo-referencing points using GPS and RS, geographical localization of health inspections should be useful as long as the errors between the results of the two methodologies are considered.

Text in English (article in press)

Investigación en Salud Animal / Animal Health Research



Issues and special features of animal health research

Ducrot C, Bed'hom B, Béringue V, Coulon JB, Fourichon C, Guérin JL, Krebs S, Rainard P, Schwartz-Cornil I, Torny D, Vayssier-Taussat M, Zientara S, Zundel E, Pineau T
Vet Res. 2011 Aug; 2 (1): 96

ABSTRACT: In the rapidly changing context of research on animal health, INRA launched a collective discussion on the challenges facing the field, its distinguishing features, and synergies with biomedical research. As has been declared forcibly by the heads of WHO, FAO and OIE, the challenges facing animal health, beyond diseases transmissible to humans, are critically important and involve food

security, agriculture economics, and the ensemble of economic activities associated with agriculture. There are in addition issues related to public health (zoonoses, xenobiotics, antimicrobial resistance), the environment, and animal welfare. Animal health research is distinguished by particular methodologies and scientific questions that stem from the specific biological features of domestic species and from animal husbandry practices. It generally does not explore the same scientific questions as research on human biology, even when the same pathogens are being studied, and the discipline is rooted in a very specific agricultural and economic context. Generic and methodological synergies nevertheless exist with biomedical research, particularly with regard to tools and biological models. Certain domestic species furthermore present more functional similarities with humans than laboratory rodents. The singularity of animal health research in relation to biomedical research should be taken into account in the organization, evaluation, and funding of the field through a policy that clearly recognizes the specific issues at stake. At the same time, the One Health approach should facilitate closer collaboration between biomedical and animal health research at the level of research teams and programmes.

Text in English

<http://www.veterinaryresearch.org/content/pdf/1297-9716-42-96.pdf>

Leishmaniasis



American tegumentary leishmaniasis and HIV-AIDS association in a tertiary care center in the Brazilian Amazon

Guerra JA, Coelho LI, Pereira FR, Siqueira AM, Ribeiro RL, Almeida TM, Lacerda MV, Barbosa MG, Talhari S

Am J Trop Med Hyg. 2011 Sep; 85 (3): 524-7

American tegumentary leishmaniasis (ATL) and human immunodeficiency virus (HIV) are both common infectious diseases in the Brazilian Amazon with overlapping expansion areas, which leads to the occurrence of Leishmania/HIV coinfection. Most ATL/HIV-acquired immunodeficiency syndrome (AIDS) association cases have been reported from areas where *Leishmania (Viannia) braziliensis* is the main pathogen; this finding is in contrast with the Amazon region, where *L. (V.) guyanensis* is the most implicated agent, implying distinct clinical and therapeutic aspects. We describe 15 cases of ATL/HIV coinfection treated in a tertiary care center in the Brazilian Amazon between 1999 and 2008. Thirteen patients presented with diverse clinical manifestations of cutaneous leishmaniasis, and four of them had disseminated forms; two patients presented with mucosal leishmaniasis (ML). Seven patients required more than one course of treatment. The particularities of ATL/HIV-AIDS association in *L. (V.) guyanensis*-endemic areas require efforts for an increased understanding of its burden and subsequent improvements in case management.

Text in English



Evaluation of *Leishmania (Leishmania) chagasi* strains isolated from dogs originating from two visceral leishmaniasis-endemic areas in Brazil using multilocus enzyme electrophoresis

Coutinho CER, Santos DO, Baptista C, Figueiredo FB, Madeira MF
Rev Soc Bras Med Trop. Aug 2011

Introduction: Domestic dogs are the most important reservoir in the peridomestic transmission cycle of *Leishmania (Leishmania) chagasi*. The genetic variability of subpopulations of this parasite circulating in dogs has not been thoroughly analyzed in Brazil, even though this knowledge has important implications in the clinical-epidemiological context. **Methods:** The objective of this study was to evaluate and compare the phenotypic variability of 153 *L. chagasi* strains isolated from dogs originating from the municipalities of Rio de Janeiro (n = 57) and Belo Horizonte (n = 96), where the disease is

endemic. Strains isolated only from intact skin were selected and analyzed by multilocus enzyme electrophoresis using nine enzyme systems (6PG, GPI, NH1 and NH2, G6P, PGM, MDH, ME, and IDHNADP). **Results:** The electrophoretic profile was identical for all isolates analyzed and was the same as that of the *L. chagasi* reference strain (MHOM/BR/74/PP75). Phenetic analysis showed a similarity index of one for all strains, with the isolates sharing 100% of the characteristics analyzed. **Conclusions:** The results demonstrate that the *L. chagasi* populations circulating in dogs from Rio de Janeiro and Belo Horizonte belong to a single zymodeme.

Text in English (article in press)

<http://www.scielo.br/pdf/rsbmt/2011nahead/aop5011.pdf>



Visceral leishmaniasis rapid diagnostic test performance

WHO
2011

This report on the performance of rapid diagnostic tests (RDTs) for visceral leishmaniasis is one of a series of TDR diagnostic evaluations. This report focuses on 5 commercially available antibody-detecting RDTs in 3 global regions of VL endemicity — the Indian subcontinent, East Africa, and South America. The RDTs were tested for clinical accuracy, ease of use, thermal stability and reproducibility. The data shows that the tests performed well, but that more research is needed to establish limits of acceptable performance and to implement RDTs within a diagnostic algorithm approach for each global endemic area.

Text in English

<http://apps.who.int/tdr/publications/tdr-research-publications/vl-rdt-evaluation/pdf/vl-rdt-evaluation.pdf>

Riesgo Sanitario / Health Risk



Riesgo sanitario y la importación de animales y sus productos

Castro Marrero J

PV ALBEITAR 38/2011

El venezolano Julián Felipe Castro describe en este artículo las bases sanitarias del comercio internacional de animales vivos y sus productos y derivados. Seguirlos resulta fundamental para minimizar los riesgos de difusión de enfermedades a nivel global.

Text in Spanish

<http://albeitar.portalveterinaria.com/noticia.asp?ref=10391>

Vacunas / Vaccines



Universal peptide vaccines – Optimal peptide vaccine design based on viral sequence conservation

Toussaint NC, Maman Y, Kohlbacher O, Louzoun Y

Vaccine. 2011 Aug

Rapidly mutating viruses such as the hepatitis C virus (HCV), the human immunodeficiency virus (HIV), or influenza viruses (Flu) call for highly effective universal peptide vaccines, i.e. vaccines that do not only yield broad population coverage but also broad coverage of various viral strains. The efficacy of such vaccines is determined by multiple properties of the epitopes they comprise. Beyond the specific

properties of each epitope, properties of the corresponding source antigens are of great importance. If a response is mounted against viral proteins with a low copy number within the cell or against proteins expressed very late, this response may fail to induce lysis of the infected cells before budding can take place. We here propose a novel methodology to optimize the epitope composition and assembly in order to induce maximum protection. In order for a peptide vaccine to yield the best possible universal protection, several conditions should be met: (a) an optimal choice of target antigens, (b) an optimal choice of highly conserved epitopes, (c) maximum coverage of the target population, and (d) the proper ordering of the epitopes in the final vaccine to ensure favorable cleavage. We propose a mathematical formalism for epitope selection and ordering that balances the constraints imposed by these different conditions. Focusing on HCV, HIV, and Flu, we show that not all of the conditions can be satisfied for all viruses. Depending on the virus, different constraints are harder to fulfill: for Flu, the conservation constraint is violated first, while for HIV, it is difficult to focus the response at the optimal target antigens. The proposed methodology can be applied to any virus to assess the feasibility of optimally combining the above-mentioned constraints.

Text in English (article in press)

Noticias / News



Panaftosa participa en la Conferencia Mundial de Rabia en Seúl, Korea

El Dr. Ottorino Cosivi, Director de PANAFTOSA y el Dr. Hugo Tamayo, Consultor en Zoonosis, invitados por la Organización Mundial de Sanidad Animal – OIE, asistieron a la Conferencia Mundial de Rabia, realizada en Seúl, Korea, del 7 al 9 de septiembre de 2011.

[Leer más...](#)

Vital Network for Brazil – National Network of Information, Discussion and Cooperation concerning Venomous Animals

<http://www.scielo.br/pdf/jvatitd/v17n3/01.pdf>

Animal Health / Sanidade Animal - Blog

<http://sanidaderural.blogspot.com/>



Salud Pública Veterinaria

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Veterinary Public Health

[Pan American Foot and Mouth Disease Center](#)

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<http://new.paho.org/panaftosa>

<http://bvs.panaftosa.org.br>

<http://bvs.panalimentos.org>

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