

Grippe aviaire

Fevrier 2008

Nous attirons votre attention sur le fait que toute communication ou diffusion, à des tiers, des références bibliographiques de cette recherche est interdite à l'extérieur de votre organisme.

PASCAL/FRANCIS : Ces références peuvent être reproduites uniquement pour une diffusion interne à l'organisme, la diffusion étant dans ce cas limitée à 10 exemplaires. Pour toute autre utilisation, veuillez prendre contact avec l'INIST pour étudier les modalités d'accord éventuel.

Services de veille de l'INIST-CNRS : <http://veille.inist.fr>
Pour nous contacter : infoclient@inist.fr



LISTE DES TITRES

- p. 6..... Development of immunosensors using carbon nanotubes
- p. 7..... Influenza A/H5N1 virus infection in humans in Cambodia
- p. 8..... Partial protection against challenge with the highly pathogenic H5N1 influenza virus isolated in Japan in chickens infected with the H9N2 influenza virus
- p. 9..... What happened in China during the 1918 influenza pandemic?
- p. 10..... Effect of gene constellation and postreassortment amino acid change on the phenotypic features of H5 influenza virus reassortants
- p. 11..... Bird flu : if or when? Planning for the next pandemic
- p. 12..... The use of vaccination to combat multiple introductions of Notifiable Avian Influenza viruses of the H5 and H7 subtypes between 2000 and 2006 in Italy
- p. 13..... Emerging occupational lung infections
- p. 14..... Human influenza A virus (H5N1) detection by a novel multiplex PCR typing method
- p. 15..... Avian influenza protection knowledge, awareness, and behaviors in a high-risk population in Suphan Buri Province, Thailand
- p. 16..... The threat of avian influenza H5N1 : 'do we have the tools for the job?'
- p. 17..... A rationale for using steroids in the treatment of severe cases of H5N1 avian influenza
- p. 18..... Molecular characterization of the surface glycoprotein genes of an H5N1 influenza virus isolated from a human in Guangdong, China
- p. 19..... Cell culture (Vero) derived whole virus (H5N1) vaccine based on wild-type virus strain induces cross-protective immune responses
- p. 20..... Antigen sparing and cross-reactive immunity with an adjuvanted rH5N1 prototype pandemic influenza vaccine : a randomised controlled trial. Commentary
- p. 22..... Development and validation of a rapid HPLC method for the determination of oseltamivir phosphate in Tamiflu<Registered> and generic versions
- p. 24..... Effect of oral gavage treatment with ZnAL42 and other metallo-ion formulations on influenza A H5N1 and H1N1 virus infections in mice
- p. 25..... Avian influenza; routes of transmission : lessons and thoughts drawn out of the past and present situation in the world and in the European Union
- p. 26..... Une pandémie grippale identique à celle de 1918-1920 est-elle concevable dans les années 2000 ?; Could an influenza pandemic like the one in 1918-1920 happen today?
- p. 27..... Dynamic patterns of avian and human influenza in east and southeast Asia
- p. 28..... Simple models of influenza progression within a heterogeneous population
- p. 29..... Avian influenza and the threat of the next human pandemic. Proceedings of the Sixth International Conference of the Hospital Infection Society, 15-18 October 2006, Amsterdam, The Netherlands
- p. 30..... CYSTUS052, a polyphenol-rich plant extract, exerts anti-influenza virus activity in mice
- p. 31..... Development of a multiplex real-time PCR assay using SUBR Green 1 chemistry for simultaneous detection and subtyping of H9N2 influenza virus type A
- p. 32..... Increased survival after gemfibrozil treatment of severe mouse influenza
- p. 33..... Sequencing of avian influenza virus genomes following random amplification
- p. 34..... L' influenza aviaire en Roumanie
- p. 35..... L' influenza aviaire, une menace émergente
- p. 36..... Méditerranée : le partage du savoir. Colloque
- p. 37..... Nonpharmaceutical interventions implemented by US cities during the 1918-1919 influenza pandemic
- p. 39..... Use of tetanus toxoid as a differentiating infected from vaccinated animals (DIVA) strategy for sero-surveillance of avian influenza virus vaccination in poultry
- p. 40..... Infections à virus du Nil occidental et de l' influenza aviaire en Israël
- p. 41..... A polyphenol rich plant extract, CYSTUS052, exerts anti influenza virus activity in cell culture without toxic side effects or the tendency to induce viral resistance
- p. 43..... Pandemic influenza planning in nursing homes : Are we prepared?

- p. 44..... **Characterization of an H5N1 avian influenza virus from Taiwan**
- p. 45..... **Molecular pathogenesis of H5N1 influenza virus infections. Spotlight on respiratory viruses**
- p. 46..... **Influenza virus susceptibility and resistance to oseltamivir. Spotlight on respiratory viruses**
- p. 47..... **Neuraminidase inhibitors and their role in avian and pandemic influenza. Spotlight on respiratory viruses**
- p. 48..... **Discovery and characterization of the 1918 pandemic influenza virus in historical context. Spotlight on respiratory viruses**
- p. 49..... **La lutte contre la pandémie grippale : un levier contre l' exclusion. La sante, question de justice**
- p. 50..... **Les crises sanitaires de grande ampleur : un nouveau défi ?**
- p. 51..... **Pathogenic and molecular characterization of the H5N1 avian influenza virus isolated from the first human case in Zhejiang province, China**
- p. 52..... **Enhanced protective efficacy of H5 subtype avian influenza DNA vaccine with codon optimized HA gene in a pCAGGS plasmid vector**
- p. 54..... **H5N1 infection of the respiratory tract and beyond : a molecular pathology study. Commentary**
- p. 56..... **An assessment of influenza vaccination among health profession students**
- p. 57..... **Analysis of the PB2 gene reveals that indian H5N1 influenza virus belongs to a mixed-migratory bird sub-lineage possessing the amino acid lysine at position 627 of the PB2 protein**
- p. 58..... **Development of a respiratory virus panel test for detection of twenty human respiratory viruses by use of multiplex PCR and a fluid microbead-based assay**
- p. 59..... **Human and avian influenza viruses target different cells in the lower respiratory tract of humans and other mammals. Commentary**
- p. 60..... **Le franchissement de la barrière inter-espèces : dernier obstacle avant la pandémie. XXIII^e congrès national de la SFTS, 2-5 juillet 2007 - Tours; Cross-species transmission : Last obstacle before pandemic**
- p. 61..... **Probing the receptor interactions of an H5 avian influenza virus using a baculovirus expression system and functionalised poly(acrylic acid) ligands**
- p. 62..... **Effect of ultraviolet germicidal irradiation on viral aerosols**
- p. 63..... **L' apport des nouvelles technologies en vaccinologie : Vaccination préventive et approches innovantes; New technologies for vaccine development**
- p. 64..... **Erythrocyte binding preference of avian influenza H5N1 viruses**
- p. 65..... **Protection of mice from H5N1 influenza challenge by prophylactic DNA vaccination using particle mediated epidermal delivery**
- p. 66..... **Automated extraction of avian influenza virus for rapid detection using real-time RT-PCR**
- p. 67..... **Grippes : pas de changement notable; Influenzas : an update**
- p. 68..... **Influenza vaccine : The challenge of antigenic drift**
- p. 69..... **Partial protection against H5N1 influenza in mice with a single dose of a chimpanzee adenovirus vector expressing nucleoprotein**
- p. 70..... **Inefficient transmission of H5N1 influenza viruses in a ferret contact model**
- p. 72..... **Antigenic and genetic characterization of H9N2 swine influenza viruses in China**
- p. 73..... **Pathogenesis of avian influenza (H7) virus infection in mice and ferrets : Enhanced virulence of eurasian H7N7 viruses isolated from humans**
- p. 74..... **Neuroexcitatory actions of Tamiflu and its carboxylate metabolite**
- p. 75..... **Perceptions related to human avian influenza and their associations with anticipated psychological and behavioral responses at the onset of outbreak in the Hong Kong Chinese general population : Influenza**
- p. 76..... **Pandemic influenza : What infection control professionals should know : Influenza**
- p. 77..... **A survey of human cases of H5N I avian influenza reported by the WHO before June 2006 for infection control**
- p. 78..... **An avian influenza H5N1 virus that binds to a human-type receptor**
- p. 79..... **Molecular and antigenic evolution and geographical spread of H5N1 highly pathogenic avian influenza viruses in western Africa**
- p. 81..... **Human parainfluenza viruses hPIV1 and hPIV3 bind oligosaccharides with α -2-3-linked sialic acids that are distinct from those bound by H5 avian influenza virus hemagglutinin**
- p. 82..... **The H5N1 influenza virus NS genes selected after 1998 enhance virus replication in mammalian cells**
- p. 83..... **Molecular changes in the polymerase genes (PA and PB1) associated with high pathogenicity of H5N1 influenza virus in mallard ducks**

- p. 84..... Multiple anti-interferon actions of the influenza A virus NS1 protein
- p. 85..... Immunogenicity of influenza virus vaccine is increased by anti-gal-mediated targeting to antigen-presenting cells
- p. 87..... The Mx1 gene protects mice against the pandemic 1918 and highly lethal human H5N1 influenza viruses
- p. 88..... Evaluation of replication and pathogenicity of avian influenza a H7 subtype viruses in a mouse model
- p. 89..... Establishment of influenza a virus (H6N1) in minor poultry species in southern China
- p. 90..... The genesis and evolution of H9N2 influenza viruses in poultry from southern China, 2000 to 2005
- p. 91..... Persistent host markers in pandemic and H5N1 influenza viruses
- p. 92..... Biological evaluation of anti-influenza viral activity of semi-synthetic catechin derivatives
- p. 94..... Immunization by avian H5 influenza hemagglutinin mutants with altered receptor binding specificity
- p. 95..... Evaluation du risque sanitaire pour l' homme lie a la presence de virus influenza aviaires hautement pathogenes de sous-type H5N1 ou d' un virus pandemique derive de ce sous-type dans divers effluents aqueux et eaux de surface. : sources probables d' emission du virus Influenza aviaire de sous-type H5N1 et cycle eventuel de dissemination vers le milieu naturel aquatique : exposition et risques pour la population generale et professionnelle
- p. 96..... Une pandémie grippale identique a celle de 1918-1920 est-elle concevable dans les années 2000 ?
- p. 97..... La preparation du systeme de sante aux menaces sanitaires de grande ampleur
- p. 98..... Direct ex vivo analyses of HLA-DR1 transgenic mice reveal an exceptionally broad pattern of immunodominance in the primary HLA-DR1-restricted CD4 T-cell response to influenza virus hemagglutinin
- p. 100... Characterization of low-pathogenic H5 subtype influenza viruses from eurasia : Implications for the origin of highly pathogenic H5N1 viruses
- p. 102... Neuraminidase inhibitor resistance in influenza viruses
- p. 103... Differential polymerase activity in avian and mammalian cells determines host range of influenza virus
- p. 104... A new generation of modified live-attenuated avian influenza viruses using a two-strategy combination as potential vaccine candidates
- p. 105... Antimicrobial resistance prevention initiative-An update : Proceedings of an expert panel on resistance
- p. 106... Genetic analysis of influenza A virus (H5N1) derived from domestic cat and dog in Thailand
- p. 107... Using RRT-PCR analysis and virus isolation to determine the prevalence of avian influenza virus infections in ducks at Minto Flats state game Refuge, Alaska, during August 2005
- p. 109... Estimates of the reproduction numbers of Spanish influenza using morbidity data
- p. 110... Large-scale spatial-transmission models of infectious disease
- p. 111... Effective small interfering RNAs targeting matrix and nucleocapsid protein gene inhibit influenza A virus replication in cells and mice
- p. 113... A survey of the preparedness for an influenza pandemic of general practitioners in the West Midlands, UK
- p. 114... Influenza aviaire et oiseaux migrateurs
- p. 115... Computational analysis of proteome of H5N1 avian influenza vims to define T cell epitopes with vaccine potential
- p. 116... Development and validation of a liquid chromatographic-tandem mass spectrometric method for determination of oseltamivir and its metabolite oseltamivir carboxylate in plasma, saliva and urine
- p. 118... Functional genomic and serological analysis of the protective immune response resulting from vaccination of macaques with an NS1-truncated influenza virus
- p. 120... Characterization of low-pathogenicity H5N1 avian influenza viruses from north america
- p. 122... Immunization of primates with a newcastle disease virus-vectored vaccine via the respiratory tract induces a high titer of serum neutralizing antibodies against highly pathogenic avian influenza virus
- p. 124... Generation of an attenuated H5N1 avian influenza virus vaccine with all eight genes from avian viruses
- p. 125... Grippe aviaire et homeopathie; Avian influenza and homeopathy
- p. 126... Analysis of poultry house ventilation using computational fluid dynamics

p. 127... L' influenza aviaire et autres pathologies des volailles en Afrique subsaharienne : experience personnelle au Benin

Development of immunosensors using carbon nanotubes

Titre : Development of immunosensors using carbon nanotubes

Auteur(s) : VEETIL Jithesh V; KAIMING YE

Affiliation(s) : Biomedical Engineering Program, College of Engineering, University of Arkansas, Fayetteville, Arkansas 72701, United States

Source : Biotechnology progress. 2007; 23 (3) : 517-531

ISSN : 8756-7938

CODEN : BIPRET

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 97 ref.

Résumé : With increasing reports on bioterrorism, avian flu, and other bio-threats, rapid and real time detection methods are highly warranted. Studies on developing highly sensitive immunosensors aiming at the early detection and clinical diagnoses of various diseases including cancer are undertaken all over the globe. Carbon nanotubes (CNTs) have been widely discussed as materials with enormous potential for a wide range of in vivo and in vitro bioapplications, ranging from drug delivery to highly sensitive biosensors, owing to their superior electronic and mechanical properties along with nanoscale dimensions. Though a lot of attention has been drawn toward carbon nanotubes for the past 15 years in academia and to a certain extent in industry, CNT-based immunosensors and other applications are still in the nascent stage, and there are many challenges to be overcome for the successful commercialization of the concepts. This article highlights on the recent developments and the possible impacts of carbon nanotube based immunosensors.

Code(s) de classement : 002A31; 215

Descripteur(s) anglais

Descripteur(s) : Immunosensor; Nanotube

Desc. génériques : Biotechnology; Biological sciences; Biosensor

Descripteur(s) français

Descripteur(s) : Immunodecteur; Nanotube

Desc. génériques : Biotechnologie; Sciences biologiques; Biodecteur

Localisation : INIST, Shelf number 20940, INIST No. 354000162838310010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Influenza A/H5N1 virus infection in humans in Cambodia

Titre : Influenza A/H5N1 virus infection in humans in Cambodia

Auteur(s) : BUCHY Philippe; MARDY Sek; VONG Sirenda; TOYODA Tetsuya; AUBIN Jean Thierry; MILLER Megge; TOUCH Sok; SOVANN Ly; DUFOURCQ Jean Baptiste; RICHNER Beat; PHAN VAN TU; NGUYEN THI KIM TIEN; LIM Wilina; MALIK PEIRIS J S; VAN DER WERF Sylvie

Affiliation(s) : Institut Pasteur in Cambodia, 5 Monivong blvd, P.O. Box 983, Phnom Penh, Cambodia; Institut Pasteur of Shanghai, 225 South Chongqing Road, Shanghai 200025, China; Institut Pasteur, Unite de Biologie Moleculaire des Virus Respiratoires, 25-28 rue du Dr Roux, Paris, France; World Health Organization, 51 Pasteur Street, Phnom Penh, Cambodia; Ministry of Health, Communicable Disease Department, Phnom Penh, Cambodia; Calmette Hospital, Intensive Care Unit, Monivong blvd, Phnom Penh, Cambodia; Kantha Bopha Hospitals Foundation, Cambodia; Institut Pasteur in Ho Chi Minh City, 167 Pasteur Street, Ho Chi Minh City, Viet Nam; Hong Kong Department of Health, Hong Kong; HKU-Pasteur Research Centre and Department of Microbiology, The University of Hong Kong, Hong Kong

Source : Journal of clinical virology. 2007; 39 (3) : 164-168

ISSN : 1386-6532

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : Background: Between January 2005 and April 2006, six patients of influenza A/H5N1 virus infection were reported in Cambodia, all with fatal outcome. Objectives: We describe the virological findings of these six H5N1 patients in association with clinical and epidemiologic findings. Study design: Broncho-alveolar lavage, nasopharyngeal, throat and rectal swabs and sera were cultured for virus isolation and viral load quantified in clinical specimens by real-time RT-PCR. We compared sequences obtained from different body sites within the same patient to detect viral quasi-species. Results: H5N1 virus strains isolated in Cambodia belong to genotype Z, clade 1 viruses. H5N1 viruses were isolated from serum and rectal swab specimens in two patients. The haemagglutinin gene sequences of the virus in different body sites did not differ. Amino acid substitutions known to be associated with a change in virus binding were not observed. Conclusion: The high frequency of virus isolation from serum and faecal swabs highlights that H5N1 is likely to be a disseminated infection in humans and this has implications for antiviral treatment, biosafety in clinical laboratories and on risks for nosocomial and human-to-human transmission. There were no tissue-specific adaptive mutations in the HA gene from viruses isolated from different organs.

Code(s) de classement : 002A05C10; 002B05C02J

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Human; Avian influenza virus; Cambodia; Tropism; Dissemination; Microbiology; Virology; Influenza A; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Infectious diseases; Medical sciences; Influenzavirus A; Orthomyxoviridae; Virus; Asia; Infection; Viral disease; Zoopathogen

Descripteur(s) français

Descripteur(s) : Virus grippal A; Homme; Influenzavirus aviaire; Cambodge; Tropisme; Dissemination; Microbiologie; Virologie; Grippe A; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Maladies infectieuses; Sciences médicales; Influenzavirus A; Orthomyxoviridae; Virus; Asie; Infection; Virose; Zoopathogène

Localisation : INIST, Shelf number 26272, INIST No. 354000146519480020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Partial protection against challenge with the highly pathogenic H5N1 influenza virus isolated in Japan in chickens infected with the H9N2 influenza virus

Titre : Partial protection against challenge with the highly pathogenic H5N1 influenza virus isolated in Japan in chickens infected with the H9N2 influenza virus

Auteur(s) : IMAI K; NAKAMURA K; MASE M; TSUKAMOTO K; IMADA T; YAMAGUCHI S

Affiliation(s) : National Institute of Animal Health, Tsukuba, Ibaraki, Japan

Source : Archives of virology. 2007; 152 (7) : 1395-1400

ISSN : 0304-8608

Date de publication : 2007

Pays de publication : Austria

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 17 ref.

Résumé : The protective effect of the A/Ck/Yoko/aq55/01 (H9N2) avian influenza virus against the highly pathogenic H5N1 virus, i.e., A/Ck/Yama/7/04 (genotype V), was examined. Three 5-week-old chickens were inoculated intranasally with the H9N2 virus (10⁸ EID₅₀/head) and were kept with two contact chickens. All of the infected chickens were reinoculated with the same virus at 20 weeks of age, and 10 days later, they were challenged intranasally with the H5N1 virus (10⁴ EID₅₀/head). Five chickens simultaneously challenged with only the H5N1 virus (challenge control) died within 4 days postchallenge (d.p.c.). In contrast, four out of the five challenged, immune chickens died from 5 to 8 d.p.c. The median time to death in the immune chickens (6.3 days) was significantly longer than that in the challenge controls (3.4 days) (P<0.01). No H5N1 virus shedding into the tracheae and feces of the challenged, immune chickens were detected for 3 d.p.c., but H5 genes were detectable in only one chicken by a loop-mediated isothermal amplification method. The H5N1 viruses were detected in the tracheae and/or feces of the dead immune chickens at death or 1 to 2 days before death. Only one out of the five challenged, immune chickens survived the H5N1 challenge without any signs for 14 d.p.c., but the virus and H5 gene were sporadically detected in the trachea only 7 and 14 d.p.c., respectively. This study shows that the H9N2 viruses may have the potential to induce cross-protection to the challenge with a recent lethal H5N1 virus (genotype V).

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Chicken; Pathogenicity; Japan; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus; Aves; Vertebrata; Asia; Viral disease; Infection; Veterinary; Poultry; Farming animal

Descripteur(s) français

Descripteur(s) : Influenzavirus; Poulet; Pouvoir pathogene; Japon; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus; Aves; Vertebrata; Asie; Virose; Infection; Veterinaire; Volaille; Animal elevage

Localisation : INIST, Shelf number 6355, INIST No. 354000146518640160

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

What happened in China during the 1918 influenza pandemic?

Titre : What happened in China during the 1918 influenza pandemic?

Auteur(s) : CHENG K F; LEUNG P C

Affiliation(s) : Institute of Chinese Medicine, The Chinese University of Hong Kong, 5/F Clinical Science Building, Prince of Wales Hospital, Shatin, Hong Kong

Source : International journal of infectious diseases. 2007; 11 (4) : 360-364

ISSN : 1201-9712

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 29 ref.

Résumé : Influenza has been, and continues to be, a serious threat to human life. The 1918 influenza pandemic infected nearly one quarter of the world's population and resulted in the deaths of 100 million people. Most of the countries in the world were heavily impacted. What happened in China during this period? Compared with other countries, the severity of infection in China was relatively mild. Did traditional Chinese medicine (TCM) play any role, either in the prevention or treatment of the epidemics? This paper explores the situation in China at that particular time.

Code(s) de classement : 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Influenza; Folk medicine; China; Epidemic; Chinese medicine; World; Treatment

Desc. génériques : Virology; Infectious diseases; Medical sciences; Viral disease; Infection; Asia

Descripteur(s) français

Descripteur(s) : Grippe; Médecine traditionnelle; Chine; Epidémie; Médecine chinoise; Monde; Traitement; Pandémie

Desc. génériques : Virologie; Maladies infectieuses; Sciences médicales; Virose; Infection; Asie

Localisation : INIST, Shelf number 26659, INIST No. 354000159429810120

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Effect of gene constellation and postreassortment amino acid change on the phenotypic features of H5 influenza virus reassortants

Titre : Effect of gene constellation and postreassortment amino acid change on the phenotypic features of H5 influenza virus reassortants

Auteur(s) : RUDNEVA I A; TIMOFEEVA T A; SHILOV A A; KOCHERGIN NIKITSKY K S; VARICH N L; ILYUSHINA N A; GAMBARYAN A S; KRYLOV P S; KAVERIN N V

Affiliation(s) : The D. I. Ivanovsky Institute of Virology RAMS, Moscow, Russia; The M. P. Chumakov Institute of Poliomyelitis and Virus Encephalitides RAMS, Moscow Region, Russia

Source : Archives of virology. 2007; 152 (6) : 1139-1145

ISSN : 0304-8608

Date de publication : 2007

Pays de publication : Austria

Langue(s) : English

Type de document : Serial

Nombre de références : 18 ref.

Résumé : Reassortants between a low-pathogenic avian influenza virus strain A/Duck/Primorie/2621/2001 (H5N2) and a high-yield human influenza virus strain A/Puerto Rico/8/34 (H1N1) were generated, genotyped and analyzed with respect to their yield in embryonated chicken eggs, pathogenicity for mice, and immunogenicity. A reassortant having HA and NA genes from A/Duck/Primorie/ 2621/2001 virus and 6 genes from A/Puerto Rico/ 8/34 virus (6:2 reassortant) replicated efficiently in embryonated chicken eggs, the yields being intermediate between the yields of the avian parent virus and those of the A/Puerto Rico/8/34 parent strain. The reassortant having the HA gene from A/Duck/Primorie/2621/2001 virus and 7 genes from A/Puerto Rico/8/34 virus (7:1 reassortant) produced low yields. A variant of the 7:1 reassortant selected by serial passages in eggs had an amino acid substitution in the hemagglutinin (N244D, H3 numbering). The variant produced yields similar to those of the 6:2 reassortant. A 5:3 reassortant generated by a back-cross of the 6:2 reassortant with the avian parent and having PB1, HA and NA genes of A/Duck/Primorie/ 2621/2001 virus produced higher yields than the 7:1 or 6:2 reassortants, although still lower than the yields of A/Puerto Rico/8/34 virus. The 7:1, 6:2 and 5:3 reassortants were pathogenic for mice, with the level of virulence close to A/Puerto Rico/8/34 virus, in contrast to the extremely low pathogenicity of the A/Duck/Primorie/2621/2001 parent strain. Immunization of mice with an inactivated 6:2 H5N2 reassortant provided efficient immune protection against a reassortant virus containing the HA and NA genes of a recent H5N1 isolate. The results are discussed in connection with the problem of the improvement of vaccine strains against the threatening H5N1 pandemic.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Gene; Genetic reassortment

Desc. génériques : Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus; Gene; Reassortiment genetique

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 6355, INIST No. 354000162882440090

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Bird flu : if or when? Planning for the next pandemic

Titre : Bird flu : if or when? Planning for the next pandemic

Auteur(s) : SELLWOOD Chloe; ASGARI JIRHANDEH Nima; SALIMEE Sultan

Affiliation(s) : Pandemic Influenza Office, Health Protection Agency Centre for Infections, Colindale, London, United Kingdom

Source : Postgraduate medical journal. 2007; 83 (981) : 445-450

ISSN : 0032-5473

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 76 ref.

Résumé : Avian influenza or "bird flu" is causing increasing concern across the world as experts prepare for the possible occurrence of the next human influenza pandemic. Only influenza A has ever been shown to have the capacity to cause pandemics. Currently A/H5N1, a highly pathogenic avian influenza virus, is of particular concern. Outbreaks of this disease in birds, especially domestic poultry, have been detected across Southeast Asia at regular intervals since 2003, and have now affected parts of Africa and Europe. Many unaffected countries across the world are preparing for the possible arrival of HPAI A/H5N1 in wild birds and poultry within their territories. All such countries need to prepare for the rare possibility of a small number of human cases of HPAI A/H5N1, imported through foreign travel. Although it is by no means certain that HPAI A/ H5N1 will be the source of the next pandemic, many countries are also preparing for the inevitable occurrence of human pandemic influenza.

Code(s) de classement : 002B01; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Medicine; Avian influenza

Desc. génériques : Medical sciences; Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Medecine; Plan pandémie; Grippe aviaire

Desc. génériques : Sciences médicales; Virologie; Maladies infectieuses; Sciences médicales; Infection; Virose

Localisation : INIST, Shelf number 9614, INIST No. 354000162942830020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

The use of vaccination to combat multiple introductions of Notifiable Avian Influenza viruses of the H5 and H7 subtypes between 2000 and 2006 in Italy

Titre : The use of vaccination to combat multiple introductions of Notifiable Avian Influenza viruses of the H5 and H7 subtypes between 2000 and 2006 in Italy

Auteur(s) : CAPUA Ilaria; MARANGON Stefano

Affiliation(s) : OIE/FAO Reference Laboratory for Newcastle Disease and Avian Influenza, Istituto Zooprofilattico Sperimentale delle Venezie, Viale dell'Università 10, 35020 Legnaro, Padova, Italy

Source : *Vaccine* . 2007; 25 (27) : 4987-4995

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 45 ref.

Résumé : Since 1999, Italy has been challenged by several epidemics of Notifiable Avian Influenza (NAI) of the H5 and H7 subtypes, occurring in the densely populated poultry areas of northern part of the country. Vaccination with a conventional vaccine containing a seed strain with a different neuraminidase subtype to the field virus was used to complement biosecurity and restriction measures as part of an overall eradication strategy. This vaccination technique, known as the "DIVA-Differentiating Infected from Vaccinated Animals" system, enabled the identification of field exposed flocks and ultimately the eradication of H7N1, H7N3 and H5N2 infections. A bivalent H5/H7 prophylactic vaccination programme of defined poultry populations was introduced subsequently to increase their resistance to field infection. Retrospective analysis of the outbreaks identified important reservoir species such as quail, and demonstrated clearly the higher susceptibility of turkeys to infection. Data generated during 6 years of experience with vaccination against Avian Influenza (AI) indicate that it is a useful tool to limit secondary spread and possibly prevent the introduction of AI viruses in a susceptible population. The Italian AI control programme including vaccination was managed in a flexible manner and enabled the continuation of international trade. It is imperative that if vaccination is to be used to combat the current H5N1 epidemic it is used in conjunction with other measures and under official supervision. An extraordinary effort is required from international organisations to accredit control strategies so that harmonised and validated programs can be implemented. Transparency and sharing of field results from countries that are practising such programmes is crucial to the progressive control and ultimately the eradication of NAI infections in the animal reservoir.

Code(s) de classement : 002A05F04; 002A05C10

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Vaccination; Subtype; Italy; Epidemiology; Avian influenza

Desc. génériques : Immunology; Pharmacology; Applied microbiology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Europe; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Vaccination; Sous-type; Italie; Epidémiologie; Grippe aviaire

Desc. génériques : Immunologie; Pharmacologie; Microbiologie appliquée; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Europe; Infection; Virose

Localisation : INIST, Shelf number 20289, INIST No. 354000149422220030

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Emerging occupational lung infections

Titre : Emerging occupational lung infections

Auteur(s) : HO P L; BECKER M; CHAN YEUNGS M M

Affiliation(s) : Department of Medicine, University of Hong Kong, Hong Kong; Departments of Medical Microbiology and Section of Infectious Disease, Department of Internal Medicine, University of Manitoba, Winnipeg, Manitoba, Canada; Respiratory Division, Department of Medicine, University of Hong Kong, Hong Kong; University of British Columbia, Vancouver, British Columbia, Canada

Source : International journal of tuberculosis and lung disease. 2007; 11 (7) : 710-721

ISSN : 1027-3719

Date de publication : 2007

Pays de publication : France

Langue(s) : English

Langue(s) du résumé : Spanish; French

Type de document : Serial

Nombre de références : 97 ref.

Résumé : Des observations recentes sur les infections emergentes telles le syndrome respiratoire aigu grave (SARS) et la grippe aviaire (H5N1) ont souligne les risques d' infections pulmonaires graves provenant d' exposition professionnelle. L' infection par le virus de l' immunodeficiency humaine (VIH) survenue dans le cadre professionnel pourrait egalement entrainer des infections pulmonaires opportunistes menacant la vie en raison de l' immunosuppression de l' hote. Ces trois infections survenues dans le milieu professionnel constituent des problemes majeurs de la sante publique et comportent d' enormes implications economiques et societales. Dans cette revue, nous discutons la microbiologie, l' epidemiologie et le mode de transmission ainsi que les caracteristiques cliniques, le traitement et surtout les mesures de prevention. Les travailleurs de soins de sante (HCW) qui constituent une ressource de soins de sante importante, particulierement dans les nations en developpement, subissent un risque eleve de contracter ces maladies. Alors qu' il existe des medicaments pour le traitement des infections VIH, ils sont couteux et ne sont pas largement disponibles dans le monde en developpement ou ils sont les plus necessaires. Comme il n' y a pas de traitement efficace bien reconnu pour le SARS et la grippe aviaire, la prevention de l' infection est la plus importante. Les HCW devraient etre conscients de l' existence d' infections professionnelles et savoir comment se proteger eux-memes. Une formation reguliere devrait etre assuree par toutes les institutions de soins de sante au sujet des mesures de controle de l' infection et de l' utilisation d' un equipement protecteur personnel.

Code(s) de classement : 002B30A03C; 002B11; 002B30B04

Descripteur(s) anglais

Descripteur(s) : Emerging disease; Occupational exposure; Occupational medicine; Infection; Lung; Pneumology; Human; Public health

Desc. génériques : Public health; Medical sciences; Pneumology; Respiratory system; Medical sciences; Public health; Medical sciences; Respiratory system

Descripteur(s) français

Descripteur(s) : Maladie emergente; Exposition professionnelle; Medecine du travail; Infection; Poumon; Pneumologie; Homme; Sante publique

Desc. génériques : Sante publique; Sciences medicales; Pneumologie; Appareil respiratoire; Sciences medicales; Sante publique; Sciences medicales; Appareil respiratoire

Localisation : INIST, Shelf number 26450, INIST No. 354000146544960020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Human influenza a virus (H5N1) detection by a novel multiplex PCR typing method

Titre : Human influenza a virus (H5N1) detection by a novel multiplex PCR typing method

Auteur(s) : SHUMEI ZOU; JIAN HAN; LEYING WEN; YAN LIU; CRONIN Kassi; LUM Shanjuan H; LU GAO; JIE DONG; YE ZHANG; YUANJI GUO; YUELONG SHU

Affiliation(s) : Chinese Center for Disease Control and Prevention, National Institute for Viral Disease Control and Prevention, State Key Laboratory of Infectious Disease Control and Prevention, Beijing, China; Genaco Biomedical Products, Inc, Huntsville, Alabama, United States; Anhui Provincial Center for Disease Control and Prevention, Hefei, China

Source : Journal of clinical microbiology Print. 2007; 45 (6) : 1889-1892

ISSN : 0095-1137

CODEN : JCMIDW

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 9 ref.

Résumé : We report the use of ResPlex III for genotyping influenza A viruses. The performance characteristics of the assay with regard to H5N1 are further evaluated. The ResPlex system incorporates a novel multiplex PCR technology, target-enriched multiplex PCR, to simultaneously amplify multiple molecular targets in one reaction. The ResPlex III assay targets the HI, H2, H3, H5, H7, H9, N1, and N2 genes from the influenza A virus as well as the NS genes from influenza A (NSA) and B (NSB) viruses, providing detection and genotyping of influenza A and B viruses. The analytical sensitivities for detecting the H5, N1, and NSA genes were 1, 10^{>1}, and 10 50% tissue culture infectious doses/200 <mu>/reaction, respectively. A total of 217 sequential clinical samples including 14 samples with human H5N1 infections were tested by the ResPlex III assay, and the results were compared to a reference standard combined with results of viral culture and conventional reverse transcriptase and real-time PCR. The clinical sensitivity and specificity for detecting H5N1 were 93.3% and 100%, respectively, indicating that different subtypes of influenza A virus can be quickly and correctly identified using the ResPlex III genotyping approach.

Code(s) de classement : 002A05C10; 002B05

Descripteur(s) anglais

Descripteur(s) : Human; Influenza A virus; Detection; Multiplex polymerase chain reaction; Typing; Method; Microbiology; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Infectious diseases; Medical sciences; Influenzavirus A; Orthomyxoviridae; Virus; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Homme; Virus grippal A; Detection; Reaction chaine polymerase multiplex; Typage; Methode; Microbiologie; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Maladies infectieuses; Sciences medicales; Influenzavirus A; Orthomyxoviridae; Virus; Infection; Virose

Localisation : INIST, Shelf number 17088, INIST No. 354000149915670330

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Avian influenza protection knowledge, awareness, and behaviors in a high-risk population in Suphan Buri Province, Thailand

Titre : Avian influenza protection knowledge, awareness, and behaviors in a high-risk population in Suphan Buri Province, Thailand

Auteur(s) : MATON Tavorn; BUTRAPORN Piyarat; KAEWKANGWAL Jaranit; FUNGLADDA Wijitr

Affiliation(s) : Department of Social and Environmental Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand; Department of Tropical Hygiene, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Source : Southeast Asian journal of tropical medicine and public health. 2007; 38 (3) : 560-568

ISSN : 0125-1562

CODEN : SJTMAK

Date de publication : 2007

Pays de publication : Thailand

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : Avian influenza (AI) had outbreaks in Thailand from January 2004 to December 2005, which resulted in 22 human cases, and 14 deaths. Three confirmed cases were reported in Suphan Buri Province in 2004, one of whom died. A cross-sectional study aimed to investigate knowledge, attitudes, and practices about AI in Song Phi Nong District of Suphan Buri Province. Most of the respondents had moderate levels of knowledge. Most of their attitudes towards and practices of the prevention and control of AI were also appropriate. However, the peoples' knowledge about major signs and symptoms of AI was limited. The study suggested that those who had received information from media had better attitudes towards and practices of AI prevention and control, compared with those who had not received information from media. Therefore, the media played an important role in improving knowledge, attitudes, and behaviors; but for the better protection from AI, continuing health education will be necessary in Thailand.

Code(s) de classement : 002B01; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Protection; Knowledge; Awareness; Behavior; High risk; Population; Thailand; Tropical medicine; Avian influenza

Desc. génériques : Medical sciences; Virology; Infectious diseases; Medical sciences; Asia; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Protection; Connaissance; Prise conscience; Comportement; Risque eleve; Population; Thaïlande; Medecine tropicale; Grippe aviaire

Desc. génériques : Sciences médicales; Virologie; Maladies infectieuses; Sciences médicales; Asie; Infection; Virose

Localisation : INIST, Shelf number 19778, INIST No. 354000159418010230

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

The threat of avian influenza H5N1 : 'do we have the tools for the job?'

Titre : The threat of avian influenza H5N1 : 'do we have the tools for the job?'

Auteur(s) : OXFORD John; LAMBKIN WILLIAMS Robert; MANN Alex

Affiliation(s) : Centre for Infectious Diseases, Retroscreen Virology Ltd, London, United Kingdom; Queen Mary University of London, London, United Kingdom

Source : Antiviral chemistry and chemotherapy. 2007; 18 (2) : 71-74

ISSN : 0956-3202

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : For the first time in human history virologists have the knowledge about the avian origin of pandemic influenza A viruses. Furthermore, in the last two decades a new class of anti influenza drugs, the neuraminidase inhibitors (NIs), has been developed from an academic discovery to a series of antiviral drugs to be used in the clinic. At present vaccinologists are producing influenza A (H5N1) vaccines to be stockpiled alongside the NIs to combat the first wave of an anticipated influenza pandemic. Studies from the 1918 infection calamity, the Spanish influenza, and the succeeding pandemics of 1957 and 1968, all caused by avian influenza A viruses, have shown how quickly such a virus can mutate to become less virulent (starting with 50% case fatality) and more infectious. Such a mutation cluster could lead to a rapid increase in world deaths, currently 170, to many millions. However there are optimistic analyses: judicious and swift application of NIs, vaccine and hygiene to an outbreak epicentre, most likely in South-East Asia, could break the chain of transmission.

Code(s) de classement : 002B02S05; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Neuraminidase inhibitor; Antiviral; Review; Human; Treatment; Prevention; Public health; Hygiene; Vaccine; Avian influenza; Influenzavirus AH5N1

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Inhibiteur neuraminidase; Antiviral; Article synthese; Homme; Traitement; Prevention; Sante publique; Hygiene; Vaccin; Pandemie; Grippe aviaire; Influenzavirus AH5N1

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences medicales; Virologie; Maladies infectieuses; Sciences medicales; Infection; Virose

Localisation : INIST, Shelf number 22101, INIST No. 354000162268220020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

A rationale for using steroids in the treatment of severe cases of H5N1 avian influenza

Titre : A rationale for using steroids in the treatment of severe cases of H5N1 avian influenza

Auteur(s) : CARTER Marissa J

Affiliation(s) : Strategic Solutions, Inc., 1143 Salsbury Ave, Cody, WY 82414, United States

Source : Journal of medical microbiology. 2007; 56 (7) : 875-883

ISSN : 0022-2615

CODEN : JMMLAV

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 2 p.

Résumé : Acute hypercytokinaemia represents an imbalance of pro-inflammatory and anti-inflammatory cytokines, and is believed to be responsible for the development of acute respiratory distress syndrome and multiple organ failure in severe cases of avian (H5N1) influenza. Although neuraminidase inhibitors are effective in treating avian influenza, especially if given within 48 h of infection, it is harder to prevent the resultant hypercytokinaemia from developing if the patient does not seek timely medical assistance. Steroids have been used for many decades in a wide variety of inflammatory conditions in which hypercytokinaemia plays a role, such as sepsis and viral infections, including severe acquired respiratory syndromes and avian influenza. However, to date, the results have been mixed. Part of the reason for the discrepancies might be the lack of understanding that low doses are required to prevent mortality in cases of adrenal insufficiency. Adrenal insufficiency, as defined in the sepsis/shock literature, is a plasma cortisol rise of at least $9 \mu\text{g dl}^{-1}$ following a $250 \mu\text{g}$ dose of adrenocorticotropin hormone (ACTH), or reaching a plasma cortisol concentration of $>25 \mu\text{g dl}^{-1}$ following a 1-2 μg dose of ACTH. In addition, in the case of hypercytokinaemia induced by potent viruses, such as H5N1, systemic inflammation-induced, acquired glucocorticoid resistance is likely to be present. Adrenal insufficiency can be overcome, however, with prolonged (7-10 or more days) supraphysiological steroid treatment at a sufficiently high dose to address the excess activation of NF-KB, but low enough to avoid immune suppression. This is a much lower dose than has been typically used to treat avian influenza patients. Although steroids cannot be used as a monotherapy in the treatment of avian influenza, there might be a potential role for their use as an adjunct treatment to antiviral therapy if appropriate dosages can be determined. In this paper, likely mechanisms of adrenal insufficiency are discussed, drawing from a broad background of literature sources.

Code(s) de classement : 002A05; 002B05

Descripteur(s) anglais

Descripteur(s) : Steroid; Treatment; Microbiology; Avian influenza

Desc. génériques : Microbiology; Biological sciences; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Stéroïde; Traitement; Microbiologie; Grippe aviaire

Desc. génériques : Microbiologie; Sciences biologiques; Maladies infectieuses; Sciences médicales; Infection; Virose

Localisation : INIST, Shelf number 988B, INIST No. 354000159359690010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Molecular characterization of the surface glycoprotein genes of an H5N1 influenza virus isolated from a human in Guangdong, China

Titre : Molecular characterization of the surface glycoprotein genes of an H5N1 influenza virus isolated from a human in Guangdong, China

Auteur(s) : ZHOU J J; FU J; FANG D Y; YAN H J; TIAN J; ZHOU J M; TAO J P; LIANG Y; JIANG L F

Affiliation(s) : Department of Microbiology, Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou, China

Source : Archives of virology. 2007; 152 (8) : 1515-1521

ISSN : 0304-8608

Date de publication : 2007

Pays de publication : Austria

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 18 ref.

Résumé : In March 2006, a human H5N1-infected case was found in Guangdong province, China. Here, we molecularly characterized the hemagglutinin (HA) and neuraminidase (NA) genes of the A/China/GD01/06 (GD01) strain causing the infection. The phylogenetic analyses suggested that the HA and NA genes of GD01 and recent human H5N1 viruses from different provinces of China were probably derived from a common ancestor and the H5N1 human infection was acquired directly from affected poultry. At the cleavage site of HA, GD01 contained multiple basic amino acids, a feature characteristic of highly pathogenic avian influenza A viruses. The virus possessed Gln222, Gly224, Ser223, Asn182, Gln192 residues adjacent to the receptor-binding site, preferential for recognizing SA α 2, 3Gal. In addition, the GD01 NA amino acid sequence possessed Asn344 and Phe466, which might be related to the low-pH stability of the sialidase activity and gastrointestinal symptoms of the patient.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Human; Glycoprotein; Gene; China; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Asia; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Virus grippal A; Homme; Glycoprotéine; Gene; Chine; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Asie; Infection; Virose

Localisation : INIST, Shelf number 6355, INIST No. 354000146738350100

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Cell culture (Vero) derived whole virus (H5N1) vaccine based on wild-type virus strain induces cross-protective immune responses

Titre : Cell culture (Vero) derived whole virus (H5N1) vaccine based on wild-type virus strain induces cross-protective immune responses

Auteur(s) : KISTNER Otfried; HOWARD M Keith; SPRUTH Martin; WODAL Walter; BRUHL Peter; GERENCER Marijan; CROWE Brian A; SAVIDIS DACHO Helga; LIVEY Ian; REITER Manfred; MAYERHOFER Ines; TAUER Christa; GRILLBERGER Leopold; MUNDT Wolfgang; FALKNER Falko G; BARRETT P Noel

Affiliation(s) : Baxter AG, Biomedical Research Center, Uferstrasse 15, 2304 Orth/Donau, Austria

Source : Vaccine . 2007; 25 (32) : 6028-6036

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 34 ref.

Résumé : The rapid spread and the transmission to humans of avian influenza virus (H5N1) have induced world-wide fears of a new pandemic and raised concerns over the ability of standard influenza vaccine production methods to rapidly supply sufficient amounts of an effective vaccine. We report here on a robust and flexible strategy which uses wild-type virus grown in a continuous cell culture (Vero) system to produce an inactivated whole virus vaccine. Candidate vaccines based on clade 1 and clade 2 influenza H5N1 strains were developed and demonstrated to be highly immunogenic in animal models. The vaccines induce cross-neutralising antibodies, highly cross-reactive T-cell responses and are protective in a mouse challenge model not only against the homologous virus but also against other H5N1 strains, including those from another clade. These data indicate that cell culture-grown whole virus vaccines, based on the wild-type virus, allow the rapid high yield production of a candidate pandemic vaccine.

Code(s) de classement : 002A05C10; 002A05F04

Descripteur(s) anglais

Descripteur(s) : Virus; Cell culture; Vaccine; Strain; Immunoprotection; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Immunology; Pharmacology; Applied microbiology; Microbiology; Biological sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Virus; Culture cellulaire; Vaccin; Souche; Immunoprotection; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Immunologie; Pharmacologie; Microbiologie appliquée; Microbiologie; Sciences biologiques; Infection; Virose

Localisation : INIST, Shelf number 20289, INIST No. 354000146733140090

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Antigen sparing and cross-reactive immunity with an adjuvanted rH5N1 prototype pandemic influenza vaccine : a randomised controlled trial. Commentary

Titre : Antigen sparing and cross-reactive immunity with an adjuvanted rH5N1 prototype pandemic influenza vaccine : a randomised controlled trial. Commentary

Auteur(s) : SAMBHARA Suryaprakash, comment; POLAND Gregory A, comment; LEROUX ROELS Isabel; BORKOWSKI Astrid; VANWOLLEGHEM Thomas; DRAME Mamadou; CLEMENT Frederic; HONS Eliane; DEVASTER Jeanne Marie; LEROUX ROELS Geert

Affiliation(s) : Influenza Division, Centers for Disease Control and Prevention, Atlanta, GA 30333, United States; Mayo Vaccine Research Group, Mayo Clinic and Foundation, Rochester, MN, United States; ProfGeert Leroux-Roels, Centre for vaccinology, Ghent University and Hospital, Ghent, Belgium; GlaxoSmithKline Biologicals, Rixensart, Belgium

Source : Lancet British edition. 2007; 370 (9587) : 544-545, 580-589 12 p.

ISSN : 0140-6736

CODEN : LANCAO

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 53 ref.

Résumé : Background Antigen sparing is regarded as crucial for pandemic vaccine development because worldwide influenza vaccine production capacity is limited. Adjuvantation is an important antigen-sparing strategy. We assessed the safety and immunogenicity of a recombinant H5N1 split-virion vaccine formulated with a proprietary adjuvant system and investigated whether it can induce cross-reactive immunity. Methods Two doses of an inactivated split A/Vietnam/1194/2004 NIBRG-14 (recombinant H5N1 engineered by reverse genetics) vaccine were administered 21 days apart to eight groups of 50 volunteers aged 18-60 years. We studied four antigen doses (3.8 μ g, 7.5 μ g, 15 μ g, and 30 μ g haemagglutinin) given with or without adjuvant. Blood samples were collected to analyse humoral immune response. Adverse events were recorded up through study day 51. Safety analyses were of the whole vaccinated cohort and immunogenicity analyses per protocol. This trial is registered with the ClinicalTrials.gov, number NCT00309634. Findings All eight vaccine formulations had a good safety profile. No serious adverse events were reported. The adjuvanted vaccines induced more injection-site symptoms and general symptoms than did the non-adjuvanted vaccines, but most were mild to moderate in intensity and transient in nature. The adjuvanted formulations were significantly more immunogenic than the non-adjuvanted formulations at all antigen doses. At the lowest antigenic dose (3-8 μ g), immune responses for the adjuvanted vaccine against the recombinant homologous vaccine strain (A/Vietnam/1194/2004 NIBRG-14, clade 1) met or exceeded all US Food and Drug Administration and European Union licensure criteria. Furthermore, 37 of 48 (77%) participants receiving 3.8 μ g of the adjuvanted vaccine seroconverted for neutralising antibodies against a strain derived by reverse genetics from a drifted H5N1 isolate (A/Indonesia/5/2005, clade 2). Interpretation Adjuvantation conferred significant antigen sparing that could increase the production capacity of pandemic influenza vaccine. Moreover, the cross-clade neutralising antibody responses recorded imply that such a vaccine could be deployed for immunisation before a pandemic.

Code(s) de classement : 002B01; 002B05C02C; 002B30A03

Descripteur(s) anglais

Descripteur(s) : Immunoprophylaxis; Antigen; Cross reaction; Cross immunity; Adjuvant; Influenza A; Prevention; Vaccine; Clinical trial; Medicine

Desc. génériques : Medical sciences; Virology; Infectious diseases; Medical sciences; Public health; Medical sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Immunoprophylaxie; Antigene; Reaction croisee; Immunité croisee; Adjuvant; Grippe A; Prevention; Vaccin; Essai clinique; Medecine; Pandemie; Grippe pandemique

Desc. génériques : Sciences medicales; Virologie; Maladies infectieuses; Sciences medicales; Sante publique; Sciences medicales; Virose; Infection

Localisation : INIST, Shelf number 5004, INIST No. 354000150044770130

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Development and validation of a rapid HPLC method for the determination of oseltamivir phosphate in Tamiflu<Registered> and generic versions

Titre : Development and validation of a rapid HPLC method for the determination of oseltamivir phosphate in Tamiflu<Registered> and generic versions

Auteur(s) : JOSEPH CHARLES J; GENESTE C; LABORDE KUMMER E; GHEYUCHE R; BOUDIS H; DUBOST J P

Affiliation(s) : Universite Victor Segalen Bordeaux 2, UFR des Sciences Pharmaceutiques, Laboratoire de Chimie Analytique, 33076 Bordeaux, France; Universite Benyoucef Ben Khedda, Faculte de Medecine d'Alger, Departement de Pharmacie, Laboratoire de Chimie Analytique, 16100 Alger Centre, Algeria

Source : Journal of pharmaceutical and biomedical analysis. 2007; 44 (4) : 1008-1013

ISSN : 0731-7085

CODEN : JPBADA

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 15 ref.

Résumé : Oseltamivir phosphate (OP) is an antiviral drug that is used in the treatment and prophylaxis of both influenza A and influenza B. It is effective against all known influenza viruses that can infect humans, including pandemic influenza viruses and may be the most appropriate antiviral option against avian influenza caused by H5N1 virus. Tamiflu<Registered>, the registered trademark used under exclusive license by Roche laboratories with OP as active pharmaceutical ingredient, is considered the best treatment for the bird flu disease. A simple, selective, linear, accurate and precise HPLC method was developed and validated for rapid assay of OP aimed to the quality control of Tamiflu<Registered> capsules and generic versions. Isocratic elution at a flow rate of 1.2 mL/min was employed on a Zorbax CN column (150 mm x 4.6 mm; 5 μ m) at ambient temperature. The mobile phase consisted of methanol and 0.04 M formic acid pH 3.0 (50:50, v/v). The UV detection wavelength was 226 nm and 20 μ L of sample was injected. Sotalol hydrochloride was used as the internal standard (IS). The retention times for OP and IS were 3.40 and 2.25 min, respectively. The method was successfully applied to commercial pharmaceuticals, Tamiflu<Registered> and generic versions. The proposed method could be applicable for routine analysis of OP and monitoring of the quality of marketed drugs as possibly counterfeit Tamiflu<Registered>.

Code(s) de classement : 002B02A02; 002A02

Descripteur(s) anglais

Descripteur(s) : Development; Validation; Rapid technique; HPLC chromatography; Quantitative analysis; Determination; Oseltamivir; Phosphates; Generic drug; Avian influenza virus; Antiviral; Avian influenza; Counterfeiting

Desc. génériques : Pharmacology; Medical sciences; Biochemistry; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Exo α sialidase; O Glycosidases; Glycosidases; Hydrolases; Enzyme; Enzyme inhibitor; Neuraminidase inhibitor; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Developpement; Validation; Technique rapide; Chromatographie HPLC; Analyse quantitative; Determination; Oseltamivir; Phosphate; Medicament generique; Influenzavirus aviaire; Antiviral; RP HPLC; Grippe aviaire; Contre facon

Desc. génériques : Pharmacologie; Sciences medicales; Biochimie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Exo α sialidase; O Glycosidases; Glycosidases; Hydrolases; Enzyme; Inhibiteur

enzyme; Inhibiteur neuraminidase; Infection; Virose

Localisation : INIST, Shelf number 19962, INIST No. 354000150049490240

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Effect of oral gavage treatment with ZnAL42 and other metallo-ion formulations on influenza A H5N1 and H1N1 virus infections in mice

Titre : Effect of oral gavage treatment with ZnAL42 and other metallo-ion formulations on influenza A H5N1 and H1N1 virus infections in mice

Auteur(s) : BARNARD Dale L; WONG Min Hui; BAILEY Kevin; DAY Craig W; SIDWELL Robert W; HICKOK Stephen S; HALL Tony J

Affiliation(s) : Institute for Antiviral Research, Utah State University, Logan, UT, United States; Remedy Research Ltd, London, United Kingdom

Source : Antiviral chemistry and chemotherapy. 2007; 18 (3) : 125-132

ISSN : 0956-3202

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : Avian influenza H5N1 infections can cause severe, lethal human infections. Whether influenza A virus treatments effectively ameliorate avian influenza H5N1 human infections is uncertain. The research objective was to evaluate the efficacy of novel zinc and other metallo-ion formulations in two influenza A mouse models. Mice infected with influenza A/Duck/MN/1525/81 (H5N1) virus were treated orally 48 h before virus exposure and then twice daily for 13 days with ZnAL42. The optimal dosing regimen for ZnAL42 was achieved at 17.28 mg/kg 48 h prior to virus exposure, twice daily for 7 days. The survival rate was 80% compared with 10% in the untreated control group and a 100% survival rate with ribavirin (75 mg/kg/day, twice a day for 5 days, beginning 4 h before virus exposure). ZnAL42 treatment significantly lessened the decline in arterial oxygen saturation (SaO₂; P<0.001). This regimen was also well tolerated by the mice. Manganese and selenium formulations were not inhibitory to virus replication when given therapeutically. Mice were also infected with influenza A/NWS/33 (H1N1) virus and were treated 48 h before virus exposure with three dosages of ZnAL42 (8.64, 1.46 or 0.24 mg/kg/day). Treatment was by oral gavage twice daily for 13 days. The highest dose of ZnAL42 was significantly inhibitory to the virus infection as seen by prevention of deaths and lessening of decline in SaO₂. The data suggest that the prophylactic use of ZnAL42 is effective against avian influenza H5N1 or H1N1 virus infection in mice and should be further explored as an option for treating human influenza virus infections.

Code(s) de classement : 002B02S05; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Oral administration; Treatment; Formulation; Dosage form; Influenza A; Animal; Mouse; Animal model; Zinc; Antiviral; Avian influenza; Influenzavirus AH5N1

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Virology; Infectious diseases; Medical sciences; Viral disease; Infection; Rodentia; Mammalia; Vertebrata

Descripteur(s) français

Descripteur(s) : Voie orale; Traitement; Formulation; Forme pharmaceutique; Grippe A; Animal; Souris; Modele animal; Zinc; Antiviral; Influenzavirus AH1N1; Grippe aviaire; Influenzavirus AH5N1

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences medicales; Virologie; Maladies infectieuses; Sciences medicales; Virose; Infection; Rodentia; Mammalia; Vertebrata

Localisation : INIST, Shelf number 22101, INIST No. 354000161424410020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Avian influenza; routes of transmission : lessons and thoughts drawn out of the past and present situation in the world and in the European Union

Titre : Avian influenza; routes of transmission : lessons and thoughts drawn out of the past and present situation in the world and in the European Union

Auteur(s) : VANNIER P

Affiliation(s) : Afssa, BP 53, 22440 Ploufragan, France

Source : Pathologie et biologie Paris. 2007; 55 (6) : 273-276

ISSN : 0369-8114

Date de publication : 2007

Pays de publication : France

Langue(s) : English

Type de document : Serial

Type de document : editorial

Nombre de références : 10 ref.

Code(s) de classement : 002B24; 002B01

Descripteur(s) anglais

Descripteur(s) : Transmission; International; World; European Union; Aves; Commerce; Motion; Method; Check; Fauna; Rearing; Epidemiology; Dissemination; Virus; Clinical biology; Medicine; Avian influenza; Bird

Desc. génériques : Medical sciences; Medical sciences; Vertebrata; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Transmission; International; Monde; Union europeenne; Aves; Commerce; Mouvement; Methode; Controle; Faune; Elevage; Epidemiologie; Dissemination; Virus; Biologie clinique; Medecine; Grippe aviaire; Oiseau

Desc. génériques : Sciences medicales; Sciences medicales; Vertebrata; Infection; Virose

Localisation : INIST, Shelf number 6092, INIST No. 354000146509400010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Une pandémie grippale identique à celle de 1918-1920 est-elle concevable dans les années 2000 ?; Could an influenza pandemic like the one in 1918-1920 happen today?

Titre : Une pandémie grippale identique à celle de 1918-1920 est-elle concevable dans les années 2000 ?; Could an influenza pandemic like the one in 1918-1920 happen today?

Auteur(s) : LEGEAS Michele

Affiliation(s) : Département EGRIERES, Ecole nationale de la santé publique (ENSP), Avenue du Prof. Leon Bernard, 35043 Rennes, France

Source : Environnement risques and sante. 2007; 6 (4) : 271-278

ISSN : 1635-0421

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Langue(s) du résumé : English

Type de document : Serial

Nombre de références : 32 ref.

Résumé : L'ampleur de la préparation mondiale pour faire face à une éventuelle pandémie grippale dans les années à venir est pour partie due au souvenir de la grande pandémie de 1918. L'objectif de la présente étude est de modéliser le départ d'une épidémie avec un virus proche du VIA HP (H5N1) actuel, et de mettre en évidence d'éventuelles différences épidémiologiques, selon les contextes - passé et actuel. Il apparaît que si une épidémie se déclarait, elle serait probablement reconnue avant de déclencher une pandémie. Sur la base des données proposées dans la littérature, le nombre de cas attendus sur le début d'épidémie serait de l'ordre de 4 000, dont 1 000 décès en moins de 3 semaines. Cela paraît détectable par le système international de surveillance mis en place et sa réactivité. En l'état actuel des connaissances, une pandémie grippale majeure semble donc assez faiblement probable, sauf si son départ devait avoir lieu dans des contextes de situations sanitaires déjà dégradées, rendant plus difficile la notification des cas. Si cela devait se produire, les tranches d'âge les plus touchées pourraient être celles d'un deuxième âge élargi (10 à 50 ans), correspondant largement aux actifs, et plutôt les femmes que les hommes. Si ces hypothèses se révélaient exactes, elles pourraient compliquer certains aspects des plans de préparation à cette pandémie.

Code(s) de classement : 002B30A11; 002B30A01A; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Public health; Trend; Epidemic; Epidemiology; Biological model; Flulike syndrome; Avian influenza

Desc. génériques : Public health; Medical sciences; Public health; Medical sciences; Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Santé publique; Tendances; Epidémie; Épidémiologie; Modèle biologique; Pandémie; Années 2000; Grippe pandémique; Syndrome pseudogrippal; Grippe aviaire

Desc. génériques : Santé publique; Sciences médicales; Santé publique; Sciences médicales; Virologie; Maladies infectieuses; Sciences médicales; Infection; Virose

Localisation : INIST, Shelf number 27629, INIST No. 354000146509810030

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Dynamic patterns of avian and human influenza in east and southeast Asia

Titre : Dynamic patterns of avian and human influenza in east and southeast Asia

Auteur(s) : PARK Andrew W; GLASS Kathryn

Affiliation(s) : Department of Genetics and Evolution of Infectious Diseases, Institute of Research for Development, Montpellier, France; National Centre for Epidemiology and Population Health, The Australian National University, Canberra, Australia

Source : Lancet Infectious diseases print. 2007; 7 (8) : 543-548

ISSN : 1473-3099

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 46 ref.

Résumé : The seasonal patterns of human influenza in temperate regions have been well documented; however, much less attention has been paid to patterns of infection in the tropical and subtropical areas of east and southeast Asia. During the period 1997-2006, this region experienced several outbreaks of highly pathogenic avian influenza A (H5N1) in hosts including wild and domestic poultry, human beings, and other mammals. H5N1 is thought to be a likely source of a pandemic strain of human influenza. Incidence of both human influenza and avian influenza in human beings shows evidence of seasonality throughout east and southeast Asia, although the seasonal patterns in tropical and subtropical areas are not as simple or as pronounced as those in temperate regions around the world. The possibility of a human being becoming co-infected with both human and avian strains of influenza is not restricted to a short season, although the risks do appear to be greatest during the winter months.

Code(s) de classement : 002B05C02C

Descripteur(s) anglais

Descripteur(s) : South east Asia; Human; Avian influenza

Desc. génériques : Virology; Infectious diseases; Medical sciences; Asia; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Asie du sud est; Homme; Grippe aviaire

Desc. génériques : Virologie; Maladies infectieuses; Sciences médicales; Asie; Infection; Virose

Localisation : INIST, Shelf number 27478, INIST No. 354000162371750030

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Simple models of influenza progression within a heterogeneous population

Titre : Simple models of influenza progression within a heterogeneous population

Auteur(s) : LARSON Richard C

Affiliation(s) : Center for Engineering Systems Fundamentals, Engineering Systems Division, and Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, United States

Source : Operations research. 2007; 55 (3) : 399-412

ISSN : 0030-364X

CODEN : OPREAI

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : The focus of this "OR framing paper" is to introduce the operations research (OR) community to the need for new mathematical modeling of an influenza pandemic and its control. By reviewing relevant history and literature, one key concern that emerges relates to how a population's heterogeneity may affect disease progression. Another is to explore within a modeling framework "social distancing" as a disease progression control method, where social distancing refers to steps aimed at reducing the frequency and intensity of daily human-to-human contacts. To depict social contact behavior of a heterogeneous population susceptible to infection, a nonhomogeneous probabilistic mixing model is developed. Partitioning the population of susceptibles into subgroups, based on frequency of daily human contacts and infection propensities, a stylistic difference equation model is then developed depicting the day-to-day evolution of the disease. This simple model is then used to develop a preliminary set of results. Two key findings are (1) early exponential growth of the disease may be dominated by susceptibles with high human contact frequencies and may not be indicative of the general population's susceptibility to the disease, and (2) social distancing may be an effective nonmedical way to limit and perhaps even eradicate the disease. Much more decision-focused research needs to be done before any of these preliminary findings may be used in practice.

Code(s) de classement : 002A01A

Descripteur(s) anglais

Descripteur(s) : Epidemiology; Influenza; Operations research; History; Heterogeneity; Disease; Social behavior; Probabilistic model; Partitioning; Subgroup; Difference equation; High frequency; Health; Care; Probabilistic approach; Modeling

Desc. génériques : Biological sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Epidemiologie; Grippe; Recherche operationnelle; Histoire; Heterogeneite; Maladie; Comportement social; Modele probabiliste; Partitionnement; Sous groupe; Equation differences; Haute frequence; Sante; Soin; Approche probabiliste; Modelisation

Desc. génériques : Sciences biologiques; Virose; Infection

Localisation : INIST, Shelf number 7150, INIST No. 354000146562100010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

**Avian influenza and the threat of the next human pandemic.
Proceedings of the Sixth International Conference of the Hospital
Infection Society, 15-18 October 2006, Amsterdam, The Netherlands**

Titre : Avian influenza and the threat of the next human pandemic. Proceedings of the Sixth International Conference of the Hospital Infection Society, 15-18 October 2006, Amsterdam, The Netherlands

Auteur(s) : NGUYEN VAN TAM Jonathan S; SELLWOOD Chloe

Auteur(s) : Hospital Infection Society, United Kingdom, org cong.

Affiliation(s) : Pandemic Influenza Office, Health Protection Agency Centre for Infections, United Kingdom

Source : The Journal of hospital infection. 2007; 65 (SUP2) : 10-13

Informations congrès : *International Conference of the Hospital Infection Society, *6, *Amsterdam Netherlands, *2006-10-15

ISSN : 0195-6701

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial; *Conference-Meeting

Nombre de références : 35 ref.

Code(s) de classement : 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Risk factor; Human; Avian influenza

Desc. génériques : Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Facteur risque; Homme; Pandemie; Grippe aviaire

Desc. génériques : Virologie; Maladies infectieuses; Sciences médicales; Infection; Virose

Localisation : INIST, Shelf number 18802, INIST No. 354000161616980020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

CYSTUS052, a polyphenol-rich plant extract, exerts anti-influenza virus activity in mice

Titre : CYSTUS052, a polyphenol-rich plant extract, exerts anti-influenza virus activity in mice

Auteur(s) : DROEBNER Karoline; EHRHARDT Christina; POETTER Anne; LUDWIG Stephan; PLANZ Oliver

Affiliation(s) : Friedrich -Loeffler-Institut, Institute of Immunology, Paul-Ehrlich Str. 28, 72076 Tubingen, Germany; Institute of Molecular Virology (IMV), ZMBE, Westfaelische -Wilhelms -Universitat, Von Es Marsch-Str. 56, 48159 Muenster, Germany; Dr. Pandalis Naturprodukte GmbH & Co. KG, Fuchtenweg 3, 49219 Glandorf, Germany

Source : Antiviral research. 2007; 76 (1) : 1-10

ISSN : 0166-3542

CODEN : ARSRDR

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : Influenza, a respiratory disease caused by influenza viruses, is still a worldwide threat with a high potential to cause a pandemic. Beside vaccination, only two classes of drugs are available for antiviral treatment against the pathogen. Here we show that CYSTUS052, a plant extract from a special variety of *Cistus incanus* that is rich in polymeric polyphenols, exhibits antiviral activity against a highly pathogenic avian influenza A virus (H7N7) in cell culture and in a mouse infection model. In vitro and in vivo treatment was performed with an aerosol formulation, because the bioavailability of high molecular weight polyphenols is poor. In MDCK cells, a 90% reduction of plaque numbers on cells pre-incubated with the plant extract was achieved. For in vivo experiments we used a novel monitoring system for influenza A virus-infected mice that allows measurement of body temperature and gross motor-activity of the animals. Mice treated with CYSTUS052 did not develop disease, showed neither differences in their body temperature nor differences in their gross motor-activity and exhibited no histological alterations of the bronchiolus epithelial cells.

Code(s) de classement : 002B02S05; 002B02A04

Descripteur(s) anglais

Descripteur(s) : Polyphenol; Plant origin; Medicinal plant; Influenzavirus; Animal; Mouse; Influenza A virus; Antiviral

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Pharmacology; Medical sciences; Orthomyxoviridae; Virus; Rodentia; Mammalia; Vertebrata; Influenzavirus A; Phenols; Pharmacognosy

Descripteur(s) français

Descripteur(s) : Polyphenol; Origine vegetale; Plante medicinale; Influenzavirus; Animal; Souris; Virus grippal A; Antiviral; CYSTUS052; *Cistus incanus*

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences medicales; Pharmacologie; Sciences medicales; Orthomyxoviridae; Virus; Rodentia; Mammalia; Vertebrata; Influenzavirus A; Phenols; Pharmacognosie

Localisation : INIST, Shelf number 18839, INIST No. 354000150052680010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Development of a multiplex real-time PCR assay using SYBR Green 1 chemistry for simultaneous detection and subtyping of H9N2 influenza virus type A

Titre : Development of a multiplex real-time PCR assay using SYBR Green 1 chemistry for simultaneous detection and subtyping of H9N2 influenza virus type A

Auteur(s) : ONG Wee Theng; RAHMAN OMAR Abdul; IDERIS Aini; SYED HASSAN Sharifah

Affiliation(s) : Institute of Biosciences, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia; Faculty of Veterinary Medicine, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia; Veterinary Research Institute, 59 Jalan Sultan Azlan Shah, P.O. Box 369, 30740 Ipoh, Perak, Malaysia

Source : Journal of virological methods. 2007; 144 (1-2) : 57-64

ISSN : 0166-0934

CODEN : JVMEDH

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Type de document : research-paper

Nombre de références : 3/4 p.

Résumé : Avian influenza viruses are pathogens of economical and public health concerns. However, infections caused by low pathogenic avian influenza particularly H9N2 subtype are not associated with clear clinical features. Hence, rapid detection and subtyping of the virus will enable immediate measures to be implemented for preventing widespread transmission. This study highlights the development of a multiplex real-time reverse-transcriptase polymerase chain reaction (RRT-PCR) assay using SYBR Green 1 chemistry for universal detection of avian influenza viruses and specific subtyping of H9N2 isolates based on melting temperatures (T_{m}) discriminations. Three melting peaks generated simultaneously at temperatures 85.2 ± 1.0 , 81.9 ± 0.9 and 78.7 ± 0.9 °C represent NP, H9 and N2 gene products, respectively. The RRT-PCR assay was about 10-100-fold more sensitive when compared to the conventional RT-PCR method using reference H9N2 isolate. In addition, the RRT-PCR assay was 100% sensitive as well as 92% specific according to the standard virus isolation method in detecting experimentally infected specific-pathogen-free (SPF) chickens.

Code(s) de classement : 002A05C09

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Avian influenza virus; Multiplex polymerase chain reaction; Real time; Detection; RNA directed DNA polymerase; Polymerase chain reaction; Temperature; Microbiology; Method; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Nucleotidyltransferases; Transferases; Enzyme

Descripteur(s) français

Descripteur(s) : Virus grippal A; Influenzavirus aviaire; Reaction chaine polymerase multiplex; Temps reel; Detection; RNA directed DNA polymerase; Reaction chaine polymerase; Temperature; Microbiologie; Methode; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Nucleotidyltransferases; Transferases; Enzyme

Localisation : INIST, Shelf number 18295, INIST No. 354000150048160080

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Increased survival after gemfibrozil treatment of severe mouse influenza

Titre : Increased survival after gemfibrozil treatment of severe mouse influenza

Auteur(s) : BUDD Alison; ALLEVA Lisa; ALSHARIFI Mohammed; KOSKINEN Aulikki; SMYTHE Victoria; MULLBACHER Arno; WOOD Jeff; CLARK Ian

Affiliation(s) : School of Biochemistry and Molecular Biology, Australian National University, Canberra ACT 0200, Australia; John Curtin School of Medical Research, Australian National University, Canberra ACT 0200, Australia; Statistical Consulting Unit, Australian National University, Canberra ACT 0200, Australia

Source : Antimicrobial agents and chemotherapy. 2007; 51 (8) : 2965-2968

ISSN : 0066-4804

CODEN : AACHAX

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 29 re.

Résumé : Gemfibrozil, an agent that inhibits production of proinflammatory cytokines in addition to its clinically useful lipid-lowering activity, increased survival in BALB/c mice that were already ill from infection by influenza virus A/Japan/305/57 (H2N2). Gemfibrozil was administered intraperitoneally once daily from days 4 to 10 after intranasal exposure to the virus. Survival increased from 26% in vehicle-treated mice (n = 50) to 52% in mice given gemfibrozil at 60 mg/kg/day (n = 46) (P = 0.0026). If this principle translates to patients, a drug already approved for human use, albeit by a different route for another purpose, might be adapted relatively fast for use against influenza, conceivably including human infection with a derivative of the avian H5N1 strain.

Code(s) de classement : 002B02S; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Survival; Gemfibrozil; Treatment; Animal; Mouse; Influenza; Antilipemic agent

Desc. génériques : Infectious diseases; Pharmacology; Medical sciences; Virology; Infectious diseases; Medical sciences; Rodentia; Mammalia; Vertebrata; Viral disease; Infection; Fibrate derivatives

Descripteur(s) français

Descripteur(s) : Survie; Gemfibrozil; Traitement; Animal; Souris; Grippe; Hypolipémiant; Forme grave

Desc. génériques : Maladies infectieuses; Pharmacologie; Sciences médicales; Virologie; Maladies infectieuses; Sciences médicales; Rodentia; Mammalia; Vertebrata; Virose; Infection; Fibrate dérivé

Localisation : INIST, Shelf number 13334, INIST No. 354000146718620410

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Sequencing of avian influenza virus genomes following random amplification

Titre : Sequencing of avian influenza virus genomes following random amplification

Auteur(s) : AFONSO Claudio L

Affiliation(s) : U.S. Department of Agriculture, Athens, GA, United States

Source : BioTechniques . 2007; 43 (2) : 188-192 3 p.

ISSN : 0736-6205

CODEN : BTNQDO

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 12 ref.

Résumé : Increasing surveillance for the avian influenza virus (AIV) has underscored the need for quickly and precisely characterizing isolates of this highly variable target. Random amplification, sequencing, and assembly of total RNA from nonpurified virus overcomes the need for specific primers for DNA microarray or PCR protocols.

Code(s) de classement : 002A04B; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Sequencing; Genome; Gene amplification; Virus; Avian influenza

Desc. génériques : Biological sciences; Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Sequencage; Genome; Amplification genique; Virus; Grippe aviaire

Desc. génériques : Sciences biologiques; Virologie; Maladies infectieuses; Sciences medicales; Infection; Virose

Localisation : INIST, Shelf number 20939, INIST No. 354000146722820030

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

L' influenza aviaire en Roumanie

Titre : L' influenza aviaire en Roumanie

Auteur(s) : DANES Doina

Affiliation(s) : Faculte de medecine veterinaire, Bucarest, ROU

Source : Sciences 1969. 2007; (2) : 11-14

Informations congrès : *Mediterranee : le partage du savoir. Colloque, *Trieste Italy, *2006-08-06

ISSN : 0151-0304

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Code(s) de classement : 002A05C06

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Romania; Epizootics; Poultry farming; Sanitary surveillance; Avian influenza; Influenzavirus AH5N1

Desc. génériques : Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus; Europe; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Influenzavirus; Roumanie; Epizootie; Aviculture; Surveillance sanitaire; Grippe aviaire; Influenzavirus AH5N1

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus; Europe; Infection; Virose

Localisation : INIST, Shelf number 14454, INIST No. 354000161468710030

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

L' influenza aviaire, une menace émergente

Titre : L' influenza aviaire, une menace émergente

Auteur(s) : CATTOLI Giovanni; CAPUA Ilaria

Affiliation(s) : OIE (Organisation mondiale de la sante animale) National Reference Laboratory for Newcastle Disease and Avian Influenza Istituto Zooprofilattico Sperimentale delle Venezie, Italy

Source : Sciences 1969. 2007; (2) : 9-10

Informations congrès : *Mediterranee : le partage du savoir. Colloque, *Trieste Italy, *2006-08-06

ISSN : 0151-0304

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Nombre de références : 5 ref.

Code(s) de classement : 002B05C03

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Public health; Emerging disease; Transmission from animal to man; Research program; Influenzavirus AH5N1; Avian influenza

Desc. génériques : Virology; Infectious diseases; Medical sciences; Orthomyxoviridae; Virus; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Influenzavirus; Sante publique; Maladie émergente; Transmission animal homme; Programme recherche; Influenzavirus AH5N1; Grippe aviaire

Desc. génériques : Virologie; Maladies infectieuses; Sciences medicales; Orthomyxoviridae; Virus; Infection; Virose

Localisation : INIST, Shelf number 14454, INIST No. 354000161468710020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Mediterranee : le partage du savoir. Colloque

Titre : Mediterranee : le partage du savoir. Colloque

Auteur(s) : BRUGERE PICOUX Jeanne, interviewer

Affiliation(s) : Ecole nationale veterinaire d'Alfort, France; Academie nationale de medecine, France; Academie veterinaire de France, France

Source : Sciences 1969. 2007; (2) : 3-26

Informations congrès : *Mediterranee : le partage du savoir. Colloque, *Trieste Italy, *2006-08-06

ISSN : 0151-0304

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Nombre de références : dissem.

Code(s) de classement : 002B05C03

Descripteur(s) anglais

Descripteur(s) : Emerging disease; Influenzavirus; Congress; Avian influenza

Desc. génériques : Virology; Infectious diseases; Medical sciences; Orthomyxoviridae; Virus; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Maladie emergente; Influenzavirus; Congres; Grippe aviaire

Desc. génériques : Virologie; Maladies infectieuses; Sciences medicales; Orthomyxoviridae; Virus; Infection; Virose

Localisation : INIST, Shelf number 14454, INIST No. 354000161468710005

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Nonpharmaceutical interventions implemented by US cities during the 1918-1919 influenza pandemic

Titre : Nonpharmaceutical interventions implemented by US cities during the 1918-1919 influenza pandemic

Auteur(s) : MARKEL Howard; LIPMAN Harvey B; NAVARRO J Alexander; SLOAN Alexandra; MICHALSEN Joseph R; STERN Alexandra Minna; CETRON Martin S

Affiliation(s) : Center for the History of Medicine, University of Michigan Medical School, Ann Arbor, United States; Division of Global Migration and Quarantine, Centers for Disease Control and Prevention, Atlanta, Georgia, United States

Source : JAMA the journal of the American Medical Association. 2007; 298 (6) : 644-654

ISSN : 0098-7484

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 41 ref.

Résumé : Context A critical question in pandemic influenza planning is the role nonpharmaceutical interventions might play in delaying the temporal effects of a pandemic, reducing the overall and peak attack rate, and reducing the number of cumulative deaths. Such measures could potentially provide valuable time for pandemic-strain vaccine and antiviral medication production and distribution. Optimally, appropriate implementation of non pharmaceutical interventions would decrease the burden on health care services and critical infrastructure. Objectives To examine the implementation of nonpharmaceutical interventions for epidemic mitigation in 43 cities in the continental United States from September 8, 1918, through February 22,1919, and to determine whether city-to-city variation in mortality was associated with the timing, duration, and combination of nonpharmaceutical interventions; altered population susceptibility associated with prior pandemic waves; age and sex distribution; and population size and density. Design and Setting Historical archival research, and statistical and epidemiological analyses. Nonpharmaceutical interventions were grouped into 3 major categories: school closure; cancellation of public gatherings; and isolation and quarantine. Main Outcome Measures Weekly excess death rate (EDR); time from the activation of nonpharmaceutical interventions to the first peak EDR; the first peak weekly EDR; and cumulative EDR during the entire 24-week study period. Results There were 115340 excess pneumonia and influenza deaths (EDR, 500/ 100 000 population) in the 43 cities during the 24 weeks analyzed. Every city adopted at least 1 of the 3 major categories of nonpharmaceutical interventions. School closure and public gathering bans activated concurrently represented the most common combination implemented in 34 cities (79%); this combination had a median duration of 4 weeks (range, 1-10 weeks) and was significantly associated with reductions in weekly EDR. The cities that implemented nonpharmaceutical interventions earlier had greater delays in reaching peak mortality (Spearman $r=-0.74$, $P<.001$), lower peak mortality rates (Spearman $r=0.31$, $P=.02$), and lower total mortality (Spearman $r=0.37$, $P=.008$). There was a statistically significant association between increased duration of nonpharmaceutical interventions and a reduced total mortality burden (Spearman $r=-0.39$, $P=.005$). Conclusions These findings demonstrate a strong association between early, sustained, and layered application of nonpharmaceutical interventions and mitigating the consequences of the 1918-1919 influenza pandemic in the United States. In planning for future severe influenza pandemics, nonpharmaceutical interventions should be considered for inclusion as companion measures to developing effective vaccines and medications for prophylaxis and treatment.

Code(s) de classement : 002B01

Descripteur(s) anglais

Descripteur(s) : Urban environment; Medicine

Desc. génériques : Medical sciences

Descripteur(s) français

Descripteur(s) : Milieu urbain; Medecine; Grippe pandemique; Pandemie

Desc. génériques : Sciences médicales

Localisation : INIST, Shelf number 5051, INIST No. 354000146644120060

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Use of tetanus toxoid as a differentiating infected from vaccinated animals (DIVA) strategy for sero-surveillance of avian influenza virus vaccination in poultry

Titre : Use of tetanus toxoid as a differentiating infected from vaccinated animals (DIVA) strategy for sero-surveillance of avian influenza virus vaccination in poultry

Auteur(s) : JAMES Cassandra M; FOONG Yvonne Y; MANSFIELD Josephine P; FENWICK Stanley G; ELLIS Trevor M

Affiliation(s) : School of Veterinary and Biomedical Sciences. Division of Health Sciences, Murdoch University, South Street, Perth, 6150 Western Australia, Australia

Source : Vaccine . 2007; 25 (31) : 5892-5901

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 21 ref.

Résumé : Strategies for differentiating infected from vaccinated animals (DIVA) require improvement for increased surveillance of avian influenza (AI), where vaccination is employed to control disease. We propose a novel DIVA approach for chickens using tetanus toxoid (TT) as an exogenous marker independent of serotype and relatedness of circulating and vaccine strains. Of 1779 chickens tested from Australia, Hong Kong and China, 100% were seronegative for TT-specific antibodies without vaccination. Tetanus toxoid adjuvanted to mineral oil was immunogenic in chickens. Co-delivery of both TT and inactivated LPAI (H6N2) vaccines in chickens elicited strong TT and influenza-specific antibody responses, which persisted to 53 weeks post-vaccination. Furthermore, immunization with a combined vaccine composed of TT and AI induced high levels of antibodies to both antigens. We conclude that TT is a highly suitable exogenous marker for AI vaccination in chickens allowing simple and effective monitoring of AI vaccination status.

Code(s) de classement : 002A05F04; 002A05C10

Descripteur(s) anglais

Descripteur(s) : Avian influenzavirus; Chicken; Toxoid; Vaccine; Vaccination; Poultry; Serology; Tetanus; Avian influenza

Desc. génériques : Immunology; Pharmacology; Applied microbiology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Aves; Vertebrata; Zoopathogen; Bacteriosis; Infection; Farming animal; Veterinary; Viral disease

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Poulet; Anatoxine; Vaccin; Vaccination; Volaille; Serologie; Tetanos; Grippe aviaire

Desc. génériques : Immunologie; Pharmacologie; Microbiologie appliquee; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Aves; Vertebrata; Zoopathogene; Bacteriose; Infection; Animal elevage; Veterinaire; Virose

Localisation : INIST, Shelf number 20289, INIST No. 354000161431180200

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Infections a virus du Nil occidental et de l' influenza aviaire en Israel

Titre : Infections a virus du Nil occidental et de l' influenza aviaire en Israel

Auteur(s) : BANET NOACH Caroline

Affiliation(s) : Kimron Veterinary Institute, Beit Dagan, Israel

Source : Sciences 1969. 2007; (2) : 22-26

Informations congrès : *Mediterranee : le partage du savoir. Colloque, *Trieste Italy, *2006-08-06

ISSN : 0151-0304

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Nombre de références : 8 ref.

Code(s) de classement : 002A05C06

Descripteur(s) anglais

Descripteur(s) : Israel; Influenzavirus; West Nile virus; Poultry farming; Epizootics; Avian influenza; Influenzavirus AH5N1

Desc. génériques : Virology; Microbiology; Biological sciences; Asia; Orthomyxoviridae; Virus; Japanese encephalitis group virus; Flavivirus; Flaviviridae; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Israel; Influenzavirus; Virus West Nile; Aviculture; Epizootie; Influenzavirus AH9N2; Grippe aviaire; Influenzavirus AH5N1

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Asie; Orthomyxoviridae; Virus; Virus groupe encephalite japonaise; Flavivirus; Flaviviridae; Infection; Virose

Localisation : INIST, Shelf number 14454, INIST No. 354000161468710050

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

A polyphenol rich plant extract, CYSTUS052, exerts anti influenza virus activity in cell culture without toxic side effects or the tendency to induce viral resistance

Titre : A polyphenol rich plant extract, CYSTUS052, exerts anti influenza virus activity in cell culture without toxic side effects or the tendency to induce viral resistance

Auteur(s) : EHRHARDT Christina; HRINCIUS Eike R; KORTE Virginia; MAZUR Igor; DROEBNER Karoline; POETTER Anne; DRESCHERS Stephan; SCHMOLKE Mirko; PLANZ Oliver; LUDWIG Stephan

Affiliation(s) : Institute of Molecular Virology (IMV), ZMBE, Westfaelische -Wilhelms -Universitaet, Van Esmarch-Str. 56, 48159 Muenster, Germany; Institute of Immunology, Friedrich -Loeffler -Institute (FLI), Paul-Ehrlich-Str. 28, 72076 Tuebingen, Germany; Dr. Pandalis NatUrprodukte GmbH, Fuechtenweg 3, 49219 Glandorf, Germany; Department of Molecular Biology, University of Duisburg-Essen, Hufelandstr. 55, 45122 Essen, Germany

Source : Antiviral research. 2007; 76 (1) : 38-47

ISSN : 0166-3542

CODEN : ARSRDR

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : Infections with influenza A viruses still pose a major threat to humans and several animal species. The occurrence of highly pathogenic avian influenza viruses of the H5N1 subtype capable to infect and kill humans highlights the urgent need for new and efficient countermeasures against this viral disease. Here we demonstrate that a polyphenol rich extract (CYSTUS052) from the Mediterranean plant *Cistus incanus* exerts a potent anti-influenza virus activity in A549 or MDCK cell cultures infected with prototype avian and human influenza strains of different subtypes. CYSTUS052 treatment resulted in a reduction of progeny virus titers of up to two logs. At the effective dose of 50 μ g/ml the extract did not exhibit apparent harming effects on cell viability, metabolism or proliferation, which is consistent with the fact that these plant extracts are already used in traditional medicine in southern Europe for centuries without any reported complications. Viruses did not develop resistance to CYSTUS052 when compared to amantadine that resulted in the generation of resistant variants after only a few passages. On a molecular basis the protective effect of CYSTUS052 appears to be mainly due to binding of the polymeric polyphenol components of the extract to the virus surface, thereby inhibiting binding of the hemagglutinin to cellular receptors. Thus, a local application of CYSTUS052 at the viral entry routes may be a promising approach that may help to protect from influenza virus infections.

Code(s) de classement : 002B02S05; 002B02A04

Descripteur(s) anglais

Descripteur(s) : Polyphenol; Plant origin; Medicinal plant; Influenzavirus; In vitro; Cell culture; Toxicity; Secondary effect; Resistance; Influenza A virus; Antiviral

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Pharmacology; Medical sciences; Orthomyxoviridae; Virus; Influenzavirus A; Phenols; Pharmacognosy

Descripteur(s) français

Descripteur(s) : Polyphenol; Origine vegetale; Plante medicinale; Influenzavirus; In vitro; Culture cellulaire; Toxicite; Effet secondaire; Resistance; Virus grippal A; Antiviral; CYSTUS052; *Cistus incanus*

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences medicales; Pharmacologie; Sciences medicales; Orthomyxoviridae; Virus; Influenzavirus A; Phenols; Pharmacognosie

Localisation : INIST, Shelf number 18839, INIST No. 354000150052680050

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Pandemic influenza planning in nursing homes : Are we prepared?

Titre : Pandemic influenza planning in nursing homes : Are we prepared?

Auteur(s) : MODY Lona; CINTI Sandro

Affiliation(s) : Divisions of Geriatric Medicine and Infectious Disease, University of Michigan Medical School, Ann Arbor, Michigan, United States; Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan, United States; Geriatric Research, Education and Clinical Center, Veteran Affairs Ann Arbor Healthcare System, Ann Arbor, Michigan, United States; Infectious Diseases Section, Veteran Affairs Ann Arbor Healthcare System, Ann Arbor, Michigan, United States

Source : Journal of the American Geriatrics Society. 2007; 55 (9) : 1431-1437

ISSN : 0002-8614

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 47 ref.

Résumé : Avian influenza or Influenza A (H5N1) is caused by a viral strain that occurs naturally in wild birds, but to which humans are immunologically naive. If an influenza pandemic occurs, it is expected to have dire consequences, including millions of deaths, social disruption, and enormous economic consequences. The Department of Health and Human Resources plan, released in November 2005, clearly affirms the threat of a pandemic. Anticipating a disruption in many factions of society, every segment of the healthcare industry, including nursing homes, will be affected and will need to be self-sufficient. Disruption of vaccine distribution during the seasonal influenza vaccine shortage during the 2004/05 influenza season is but one example of erratic emergency planning. Nursing homes will have to make vital decisions and provide care to older adults who will not be on the initial priority list for vaccine. At the same time, nursing homes will face an anticipated shortage of antiviral medications and be expected to provide surge capacity for overwhelmed hospitals. This article provides an overview of current recommendations for pandemic preparedness and the potential effect of a pandemic on the nursing home industry. It highlights the need for collaborative planning and dialogue between nursing homes and various stakeholders already heavily invested in pandemic preparedness.

Code(s) de classement : 002B01; 002B05C02C; 002B30A11

Descripteur(s) anglais

Descripteur(s) : Long stay; Nursing home; Homes for the aged; Care; Public health; World; Preparation; Dragging; Teaching; Geriatrics; Elderly; Gerontology; Avian influenza; Nursing home for the aged

Desc. génériques : Medical sciences; Virology; Infectious diseases; Medical sciences; Public health; Medical sciences; Human; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Long séjour; Maison de cure médicale; Etablissement troisième âge; Soins; Santé publique; Monde; Préparation; Entraînement; Enseignement; Gériatrie; Personne âgée; Gerontologie; Plan pandémie; Pandémie; État de préparation; Grippe aviaire; Hébergement pour personnes âgées dépendantes

Desc. génériques : Sciences médicales; Virologie; Maladies infectieuses; Sciences médicales; Santé publique; Sciences médicales; Homme; Infection; Virose

Localisation : INIST, Shelf number 8328, INIST No. 354000149764360170

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Characterization of an H5N1 avian influenza virus from Taiwan

Titre : Characterization of an H5N1 avian influenza virus from Taiwan

Auteur(s) : LEE M S; DENG M C; LIN Y J; CHANG C Y; SHIEH Happy K; SHIAU J Z; HUANG C C

Affiliation(s) : Animal Health Research Institute, Council of Agriculture, 376 Chung-Cheng Road, Tamsui, Taipei 251, Taiwan; Department of Veterinary Medicine, College of Veterinary Medicine, National Chung Hsing University, 250 Kou Kuang Road, Taichung 402, Taiwan

Source : Veterinary microbiology Amsterdam. 2007; 124 (3-4) : 193-201

ISSN : 0378-1135

CODEN : VMICDQ

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 1 p.1/4

Résumé : In 2003, an avian influenza (AI) virus of H5N1 subtype (A/Duck/China/E319-2/03; Dk/CHN/E319-2/03) was isolated from a smuggled duck in Kinmen Island of Taiwan. Phylogenetic analysis and pairwise comparison of nucleotide and amino acid sequences revealed that the virus displayed high similarity to the H5N1 viruses circulating in Asia during 2004 and 2005. The hemagglutinin (HA) protein of the virus contained multiple basic amino acid residues (-RERRRKR-) adjacent to the cleavage site between the HA1 and HA2 domains, showing the highly pathogenic (HP) characteristics. The HP phenotype was confirmed by experimental infection of chickens, which led up to 100% mortality within 24-72 h postinfection. The virus replicated equally well in the majority of organs of the infected chickens with titers ranging from $10^{7.5}$ to $10^{4.7}$ 50% embryo lethal dose (ELD₅₀) per gram of tissue. In a mouse model the virus exhibits low pathogenic characteristics with a lethal infection observed only after applying high inoculating dose ($\geq 10^{7.6}$ ELD₅₀) of the virus. The infectious virus particles were recovered only from the pulmonary system including trachea and lungs. Our study suggests that ducks infected with H5N1 AIV of HPAI pathotype showing no disease signs can carry the virus silently and that bird smuggling represent a serious risk for H5N1 HPAI transmission.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Avian influenzavirus; Taiwan; Pathogenicity; Transmission; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Asia; Zoopathogen; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Taiwan; Pouvoir pathogène; Transmission; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Asie; Zoopathogène; Infection; Virose

Localisation : INIST, Shelf number 16884, INIST No. 354000149706110010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Molecular pathogenesis of H5N1 influenza virus infections. Spotlight on respiratory viruses

Titre : Molecular pathogenesis of H5N1 influenza virus infections. Spotlight on respiratory viruses

Auteur(s) : NEUMANN Gabriele; SHINYA Kyoko; KAWAOKA Yoshihiro; DE JONG Menno D, ed; HAYDEN Frederick G, ed

Affiliation(s) : Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI, United States; The Avian Zoonosis Research Centre, Tottori University, Tottori, Japan; Division of Virology, Department of Microbiology and Immunology and International Research Center for Infectious Diseases, Institute of Medical Science, University of Tokyo, Tokyo, Japan; Oxford University Clinical Research Unit, Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam; University of Virginia School of Medicine, Charlottesville, VA, United States; Global Influenza Program, World Health Organization, Geneva, Switzerland

Source : Antiviral therapy London. 2007; 12 (4; p. b) : 617-626

ISSN : 1359-6535

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 108 ref.

Résumé : Highly pathogenic H5N1 influenza viruses have become endemic in poultry populations throughout Southeast Asia and continue to infect humans with a greater than 50% case fatality rate. So far, human-to-human transmission of these viruses has been limited. Here, we discuss the molecular features of H5N1 influenza viruses that might affect their pathogenicity, and explain the current lack of efficient human-to-human transmission. Such knowledge is critical in evaluating the pandemic risk these viruses pose.

Code(s) de classement : 002B02S05

Descripteur(s) anglais

Descripteur(s) : Pathogenesis; Viral disease; Influenzavirus AH5N1

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Infection

Descripteur(s) français

Descripteur(s) : Pathogenie; Virose; Influenzavirus AH5N1

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences médicales; Infection

Localisation : INIST, Shelf number 27047, INIST No. 354000161541800040

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Influenza virus susceptibility and resistance to oseltamivir. Spotlight on respiratory viruses

Titre : Influenza virus susceptibility and resistance to oseltamivir. Spotlight on respiratory viruses

Auteur(s) : AOKI Fred Y; BOIVIN Guy; ROBERTS Noel; DE JONG Menno D, ed; HAYDEN Frederick G, ed

Affiliation(s) : Department of Medical Microbiology, University of Manitoba, Winnipeg, MB, Canada; Research Center in Infectious Diseases of the CHUQ-CHUL and Laval University, Quebec City, QC, Canada; School of Biosciences, Cardiff University, Cardiff, United Kingdom; Oxford University Clinical Research Unit, Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam; University of Virginia School of Medicine, Charlottesville, VA, United States; Global Influenza Program, World Health Organization, Geneva, Switzerland

Source : Antiviral therapy London. 2007; 12 (4; p. b) : 603-616

ISSN : 1359-6535

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 78 ref.

Résumé : Oseltamivir phosphate is a prodrug of oseltamivir carboxylate, a highly specific inhibitor of influenza virus neuraminidases. Given that oseltamivir carboxylate binds to highly conserved, essential amino acids in the catalytic site of the enzyme, and that the activity of neuraminidase is critical for virus release from infected cells and subsequent virus spread, the drug was expected to have a low propensity to select for viable resistant mutants. Indeed, viruses with neuraminidase (and haemagglutinin) substitutions conferring reduced susceptibility to oseltamivir have been generated with difficulty in vitro, and these mutants generally have reduced infectivity and transmissibility compared with wild-type virus in animal models. Studies of seasonal influenza isolates collected before the introduction of oseltamivir show an absence of naturally occurring resistance. Few resistant mutants have arisen during clinical trials of oseltamivir in seasonal influenza, with cumulative data from all Roche-sponsored studies indicating an incidence of resistance of 0.32% in adults (0.4%, including low-level mutants detected by genotyping alone in mixed virus populations) and 4.1% (5.4%) in children. Higher incidences of resistance were observed in two small Japanese studies, in which children received a different dosing schedule from their Western counterparts. In summary, the overall incidence of influenza virus resistance associated with the seasonal use of oseltamivir is currently low and resistant viruses might be of little clinical significance, except perhaps in immunocompromised individuals. However, continued vigilance, especially of emerging avian H5N1 strains, combined with careful, systematic laboratory-based monitoring, is essential.

Code(s) de classement : 002B02S05

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Sensitivity; Resistance; Oseltamivir; Antiviral

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Orthomyxoviridae; Virus; Exo <alpha> sialidase; O Glycosidases; Glycosidases; Hydrolases; Enzyme; Enzyme inhibitor; Neuraminidase inhibitor

Descripteur(s) français

Descripteur(s) : Influenzavirus; Sensibilité; Résistance; Oseltamivir; Antiviral

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences médicales; Orthomyxoviridae; Virus; Exo <alpha> sialidase; O Glycosidases; Glycosidases; Hydrolases; Enzyme; Inhibiteur enzyme; Inhibiteur neuraminidase

Localisation : INIST, Shelf number 27047, INIST No. 354000161541800030

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Neuraminidase inhibitors and their role in avian and pandemic influenza. Spotlight on respiratory viruses

Titre : Neuraminidase inhibitors and their role in avian and pandemic influenza. Spotlight on respiratory viruses

Auteur(s) : CRUSAT Martin; DE JONG Menno D; DE JONG Menno D, ed; HAYDEN Frederick G, ed
Affiliation(s) : Oxford University Clinical Research Unit, Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam; Oxford University Clinical Research Unit, Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam; University of Virginia School of Medicine, Charlottesville, VA, United States; Global Influenza Program, World Health Organization, Geneva, Switzerland

Source : Antiviral therapy London. 2007; 12 (4; p. b) : 593-602

ISSN : 1359-6535

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 102 ref.

Résumé : Continuing occurrences of human infections with avian influenza A (H5N1) viruses have ignited increasing fears that the next influenza pandemic is imminent. Fortunately, options for antiviral prophylaxis and treatment have been improved dramatically since the previous pandemics by the availability of neuraminidase inhibitors such as zanamivir and oseltamivir. However, although the prophylactic and therapeutic efficacy of these drugs is well established for uncomplicated seasonal human influenza, clinical effectiveness seems limited for human H5N1 infections despite in vitro susceptibility and efficacy in animal studies. Factors which might contribute to this apparently limited efficacy include suboptimal dosing or routes of administration, suboptimal timing of treatment and the inability of antiviral drugs to interfere with immunopathology, and the development of drug resistance. Efforts to optimize the use of neuraminidase inhibitor treatment in H5N1 disease are urgently needed and might eventually aid in the judicious use of stockpiled neuraminidase inhibitors in the event of a pandemic.

Code(s) de classement : 002B02S05; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Neuraminidase inhibitor; Avian influenza

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Inhibiteur neuraminidase; Pandémie; Grippe aviaire

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences médicales; Virologie; Maladies infectieuses; Sciences médicales; Infection; Virose

Localisation : INIST, Shelf number 27047, INIST No. 354000161541800020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Discovery and characterization of the 1918 pandemic influenza virus in historical context. Spotlight on respiratory viruses

Titre : Discovery and characterization of the 1918 pandemic influenza virus in historical context. Spotlight on respiratory viruses

Auteur(s) : TAUBENBERGER Jeffery K; HULTIN Johan V; MORENS David M; DE JONG Menno D, ed; HAYDEN Frederick G, ed

Affiliation(s) : National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD, United States; Oxford University Clinical Research Unit, Hospital for Tropical Diseases, Ho Chi Minh City, Viet Nam; University of Virginia School of Medicine, Charlottesville, VA, United States; Global Influenza Program, World Health Organization, Geneva, Switzerland

Source : Antiviral therapy London. 2007; 12 (4; p. b) : 581-591

ISSN : 1359-6535

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 105 ref.

Résumé : The 2005 completion of the entire genome sequence of the 1918 H1N1 pandemic influenza virus represents both a beginning and an end. Investigators have already begun to study the virus in vitro and in vivo to better understand its properties, pathogenicity, transmissibility and elicitation of host responses. Although this is an exciting new beginning, characterization of the 1918 virus also represents the culmination of over a century of scientific research aiming to understand the causes of pandemic influenza. In this brief review we attempt to place in historical context the identification and sequencing of the 1918 virus, including the alleged discovery of a bacterial cause of influenza during the 1889-1893 pandemic, the controversial detection of 'filter-passing agents' during the 1918-1919 pandemic, and subsequent breakthroughs in the 1930s that led to isolation of human and swine influenza viruses, greatly influencing the development of modern virology.

Code(s) de classement : 002B02S05

Descripteur(s) anglais

Descripteur(s) : Influenzavirus

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus; Pandémie

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences médicales; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 27047, INIST No. 354000161541800010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

La lutte contre la pandémie grippale : un levier contre l' exclusion. La sante, question de justice

Titre : La lutte contre la pandémie grippale : un levier contre l' exclusion. La sante, question de justice

Auteur(s) : AMEISEN Jean Claude

Source : ESPRIT . 2007-07; (7) : 78-95

ISSN : 0014-0759

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial

Nombre de références : dissem.

Résumé : A l' echelle mondiale comme a l' echelle nationale, les defis poses par une possible pandémie de grippe aviaire ne sont pas seulement medicaux. Le risque est aussi de renforcer les exclusions, soit par la stigmatisation des malades, soit parce que les personnes les plus exposees seront celles qui sont les moins bien prises en charge, des aujourd' hui, par notre systeme sanitaire

Code(s) de classement : 002B30A01

Descripteur(s) anglais

Descripteur(s) : Communicable disease; Epidemic; Natural disaster; Influenza; Tuberculosis; AIDS; Contamination; Prevention; Health; Organization; Emergency; Accessibility; Care; Antiviral; Selection criterion; Ethics; Socioeconomic status; Inequality; Region; Program; Planning; Anticipation; Health policy; France; World

Desc. génériques : Public health; Medical sciences; Viral disease; Infection; Mycobacterial infection; Bacteriosis; Europe

Descripteur(s) français

Descripteur(s) : Maladie contagieuse; Epidemie; Cataclisme; Grippe; Tuberculose; SIDA; Contamination; Prevention; Sante; Organisation; Urgence; Accessibilite; Soins; Antiviral; Critere selection; Ethique; Statut socioeconomique; Inegalite; Region; Programme; Planification; Anticipation; Politique sanitaire; France; Monde

Desc. génériques : Sante publique; Sciences medicales; Virose; Infection; Mycobacteriose; Bacteriose; Europe

Localisation : BDSP/ENSP, Shelf number 161439

Origine de la notice : BDSP

Les crises sanitaires de grande ampleur : un nouveau défi ?

Titre : Les crises sanitaires de grande ampleur : un nouveau défi ?

Auteur(s) : GILBERT Claude

Source : 2007 04; 64 p.

Éditeur : La Documentation française, Paris

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Book

Nombre de références : 4 p.

Résumé : La possibilité de survenue d'une pandémie associée à la grippe aviaire conduit à de nouvelles interrogations sur la situation de crise qui résulterait d'une telle situation. Cette pandémie se situerait à l'échelle planétaire, situation encore peu connue, et mettrait à l'épreuve les sociétés contemporaines de manière inédite. Il a donc semblé nécessaire, parallèlement aux actions d'ores et déjà engagées par les pouvoirs publics, de développer une réflexion à caractère prospectif dans le cadre de l'Institut national des hautes études de la sécurité (INHES). Des représentants de différents domaines administratifs (sanitaire, sécurité civile et publique...), de l'économie, du monde associatif, des médias ainsi que des chercheurs ont mis en commun leurs connaissances, compétences et expériences. Les multiples facettes d'une pandémie grippale, les difficultés à prendre pleinement mesure de tous ses effets et conséquences ont été questionnées. Ce travail collectif invite à s'interroger sur la manière d'appréhender des crises qui, par leur caractère global et durable, obligent à concevoir de nouvelles relations entre l'État et la société civile, de nouvelles modalités de gestion de crise. Il conduit aussi et surtout à une réflexion sur la façon dont nos sociétés modernes peuvent ou pourraient continuer à fonctionner sur un mode dégradé. Avec le risque de pandémie lié à la grippe aviaire, la question qui se trouve posée est en effet celle de la capacité de résistance ou de résilience de nos sociétés à des événements touchant à leurs fondements mêmes.

Code(s) de classement : 002B30A01

Descripteur(s) anglais

Descripteur(s) : Epidemic; Epidemiology; Sanitary surveillance; Influenza; Virus; Epizootics; Crisis; Risk analysis; France; Risk management

Desc. génériques : Public health; Medical sciences; Viral disease; Infection; Europe

Descripteur(s) français

Descripteur(s) : Epidémie; Épidémiologie; Surveillance sanitaire; Grippe; Virus; Epizootie; Crise; Analyse risque; France; Gestion risque

Desc. génériques : Santé publique; Sciences médicales; Virose; Infection; Europe

Localisation : BDSP/ENSP, Shelf number 160473, CA00/0395

Origine de la notice : BDSP

Pathogenic and molecular characterization of the H5N1 avian influenza virus isolated from the first human case in Zhejiang province, China

Titre : Pathogenic and molecular characterization of the H5N1 avian influenza virus isolated from the first human case in Zhejiang province, China

Auteur(s) : JUYING YAN; YIYU LU; HAIYAN MAO; YAN FENG; CHANGPING XU; WEN SHI; JINGQING WENG; MINHONG LI; LIMING GONG; QIONG GE; MIN ZHOU; ZHEN LI; YIN CHEN

Affiliation(s) : Institute of Virology, Zhejiang Provincial Center for Disease Control and Prevention, Hangzhou 310009, China

Source : Diagnostic microbiology and infectious disease. 2007; 58 (4) : 399-405

ISSN : 0732-8893

CODEN : DMIDDZ

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 1/2 p.

Résumé : Since the reemergence of highly pathogenic avian influenza virus H5N 1, it caused disease in 20 people with 13 deaths in mainland of China. On February 21, 2006, the first suspected human case in Zhejiang province was reported. Pathogenic analyses, including reverse transcriptase polymerase chain reaction (RT-PCR), real-time RT-PCR, and virus isolation, were carried out to confirm the pathogen from tracheal aspirate specimen. In addition, antibody in serum sample was detected using hemagglutination-inhibition (HI). Results revealed that nucleic acid extracted from the tracheal aspirate specimen was positive for H5N1 avian influenza virus and influenza virus type A. The H5N 1 virus strain named A/Zhejiang/16/06 (H5N1) was isolated. The titers of HI antibody for H5N1 avian influenza virus were 1:320 and 1:640, respectively. The sequenced genes were all avian origin. Phylogenetic analyses between the A/Zhejiang/16/06 and other H5N1 influenza viruses were also included.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Human; Pathogenicity; China; Avian influenza

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Asia; Infection; Viral disease; Zoopathogen

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Homme; Pouvoir pathogène; Chine; Grippe aviaire

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Asie; Infection; Virose; Zoopathogène

Localisation : INIST, Shelf number 20217, INIST No. 354000161563590040

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Enhanced protective efficacy of H5 subtype avian influenza DNA vaccine with codon optimized HA gene in a pCAGGS plasmid vector

Titre : Enhanced protective efficacy of H5 subtype avian influenza DNA vaccine with codon optimized HA gene in a pCAGGS plasmid vector

Auteur(s) : YONGPING JIANG; KANGZHEN YU; HONGBO ZHANG; PINGJING ZHANG; CHENJUN LI; GUOBIN TIAN; YANBING LI; XIJUN WANG; JINYING GE; ZHIGAO BU; HUALAN CHEN

Affiliation(s) : Animal Influenza Laboratory of the Ministry of Agriculture and National Key Laboratory of Veterinary Biotechnology, Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences, 427 Maduan Street, Harbin 150001, China

Source : Antiviral research. 2007; 75 (3) : 234-241

ISSN : 0166-3542

CODEN : ARSRDR

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : H5N1 influenza viruses have caused significant disease and deaths in various parts of the world in several species, including humans. Vaccination combined with culling can provide an attractive method for outbreak containment. Using synthesized oligos and overlapping extension PCR techniques, we constructed an H5 HA gene, optiHA, containing chicken biased codons based on the HA amino acid sequence of the highly pathogenic H5N1 virus A/goose/Guangdong/1/96 (GS/GD/96). The optiHA and wild-type HA genes were inserted into plasmids pCI or pCAGGS, and designated as pCIoptiHA, pCAGGoptiHA, pCIHA and pCAGGHA, respectively. To evaluate vaccine efficacy, groups of 3-week-old specific pathogen free (SPF) chickens were intramuscularly injected with the four plasmids. Sera were collected on a weekly basis post-vaccination (p.v.) for hemagglutination inhibition (HI) assays and neutralization (NT) antibody detection. All chickens receiving pCAGGoptiHA and pCAGGHA developed high levels of HI and NT antibodies at 3 weeks p.v., and were completely protected from lethal H5 virus challenge, while only partial protection was induced by inoculation with the other two plasmids. A second experiment was conducted to evaluate if a lower dose of the pCAGGoptiHA vaccine could be effective, results indicated that two doses of 10 μ g of pCAGGoptiHA could induce complete protection in chickens against H5 lethal virus challenge. Based on our results, we conclude that construction optimization could dramatically increase the H5 HA gene DNA vaccine efficacy in chickens, and therefore, greatly decrease the dose necessary for inducing complete protection in chickens.

Code(s) de classement : 002B02S05; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Prevention; Efficiency; Subtype; Typing; Genetic vaccine; Codon; Gene; Plasmid; Vector; Optimization; Influenzavirus A; Hemagglutinin; Poultry; Avian influenza

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Virology; Infectious diseases; Medical sciences; Orthomyxoviridae; Virus; Infection; Viral disease; Genetics

Descripteur(s) français

Descripteur(s) : Prevention; Efficacite; Soustype; Typage; Vaccin genetique; Codon; Gene; Plasmide; Vecteur; Optimisation; Influenzavirus A; Hemagglutinine; Volaille; Hemagglutinine H5; Grippe aviaire

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences medicales; Virologie; Maladies infectieuses; Sciences medicales; Orthomyxoviridae; Virus; Infection; Virose; Genetique

Localisation : INIST, Shelf number 18839, INIST No. 354000146633070070

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

H5N1 infection of the respiratory tract and beyond : a molecular pathology study. Commentary

Titre : H5N1 infection of the respiratory tract and beyond : a molecular pathology study. Commentary

Auteur(s) : WAI FU NG, comment; KA FAI TO, comment; JIANG GU; ZHIGANG XIE; ZHANCHENG GAO; JINHUA LIU; KORTEWEG Christine; JUXIANG YE; LOK TING LAU; JIE LU; ZIFEN GAO; BO ZHANG; MCNUTT Michael A; MIN LU; ANDERSON Virginia M; GONG Encong; CHEUNG HOI YU Albert; IAN LIPKIN W

Affiliation(s) : Department of Pathology, Princess Margaret Hospital, Hong Kong; Department of Pathology, Yan Chai Hospital, Hong Kong; Department of Anatomical and Cellular Pathology, State Key Laboratory in Oncology in South China, Li Ka Shing Institute of Health Science, Chinese University of Hong Kong, Hong Kong; Infectious Disease Centre, Peking University, Beijing, China; Department of Pathology, School of Basic Medical Sciences, Peking University, Beijing, China; Department of Pathology, State University of New York, Health Science Center at Brooklyn, New York, NY, United States; People's Hospital, Peking University, Beijing, China; College of Veterinary Medicine, China Agricultural University, Beijing, China; Neuroscience Research Institute, Peking University, Beijing, China; Mailman School of Public Health, Columbia University, New York, NY, United States

Source : Lancet British edition. 2007; 370 (9593) : 1106-1108, 1137-1145 12 p.

ISSN : 0140-6736

CODEN : LANCAO

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Type de document : article; comments

Nombre de références : 54 ref.

Résumé : Background Human infection with avian influenza H5N1 is an emerging infectious disease characterised by respiratory symptoms and a high fatality rate. Previous studies have shown that the human infection with avian influenza H5N1 could also target organs apart from the lungs. Methods We studied post-mortem tissues of two adults (one man and one pregnant woman) infected with H5N1 influenza virus, and a fetus carried by the woman. In-situ hybridisation (with sense and antisense probes to haemagglutinin and nucleoprotein) and immunohistochemistry (with monoclonal antibodies to haemagglutinin and nucleoprotein) were done on selected tissues. Reverse-transcriptase (RT) PCR, real-time RT-PCR, strand-specific RT-PCR, and nucleic acid sequence-based amplification (NASBA) detection assays were also undertaken to detect viral RNA in organ tissue samples. Findings We detected viral genomic sequences and antigens in type II epithelial cells of the lungs, ciliated and non-ciliated epithelial cells of the trachea, T cells of the lymph node, neurons of the brain, and Hofbauer cells and cytotrophoblasts of the placenta. Viral genomic sequences (but no viral antigens) were detected in the intestinal mucosa. In the fetus, we found viral sequences and antigens in the lungs, circulating mononuclear cells, and macrophages of the liver. The presence of viral sequences in the organs and the fetus was also confirmed by RT-PCR, strand-specific RT-PCR, real-time RT-PCR, and NASBA. Interpretation In addition to the lungs, H5N1 influenza virus infects the trachea and disseminates to other organs including the brain. The virus could also be transmitted from mother to fetus across the placenta.

Code(s) de classement : 002B01

Descripteur(s) anglais

Descripteur(s) : Infection; Respiratory tract; Medicine; Anatomic pathology; Influenzavirus AH5N1

Desc. génériques : Medical sciences; Respiratory system

Descripteur(s) français

Descripteur(s) : Infection; Voie respiratoire; Medecine; Anatomopathologie; Influenzavirus AH5N1

Desc. génériques : Sciences médicales; Appareil respiratoire

Localisation : INIST, Shelf number 5004, INIST No. 354000160873150130

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

An assessment of influenza vaccination among health profession students

Titre : An assessment of influenza vaccination among health profession students

Auteur(s) : ALI Sadia; KHAKOO Rashida; FISHER Melanie; HOBBS Gerald R

Affiliation(s) : Section of Infectious Diseases, West Virginia University, Morgantown, West Virginia, United States; Department of Statistics, West Virginia University, Morgantown, West Virginia, United States

Source : Scandinavian journal of infectious diseases. 2007; 39 (9) : 822-825

ISSN : 0036-5548

CODEN : SJIDB7

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 11 ref.

Résumé : Health profession students work in close proximity to patients and could be a source of nosocomial influenza. We studied the proportion of health profession students presenting for immunization at an influenza immunization campaign. This assessment is useful to guide future campaigns as we prepare for pandemic influenza.

Code(s) de classement : 002B05C02C; 002B05A03

Descripteur(s) anglais

Descripteur(s) : Influenza; Nosocomial infection; Immunoprophylaxis; Vaccination; Profession; Student; Human

Desc. génériques : Virology; Infectious diseases; Medical sciences; Infectious diseases; Medical sciences; Viral disease; Infection; Prevention

Descripteur(s) français

Descripteur(s) : Grippe; Infection nosocomiale; Immunoprophylaxie; Vaccination; Profession; Etudiant; Homme

Desc. génériques : Virologie; Maladies infectieuses; Sciences médicales; Maladies infectieuses; Sciences médicales; Virose; Infection; Prevention

Localisation : INIST, Shelf number 14662, INIST No. 354000149735400120

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Analysis of the PB2 gene reveals that indian H5N1 influenza virus belongs to a mixed-migratory bird sub-lineage possessing the amino acid lysine at position 627 of the PB2 protein

Titre : Analysis of the PB2 gene reveals that indian H5N1 influenza virus belongs to a mixed-migratory bird sub-lineage possessing the amino acid lysine at position 627 of the PB2 protein

Auteur(s) : KAMAL R P; TOSH C; PATTNAIK B; BEHERA P; NAGARAJAN S; GOUNALAN S; SHRIVASTAVA N; SHANKAR B P; PRADHAN H K

Affiliation(s) : High Security Animal Disease Laboratory (A National Referral Facility), Indian Veterinary Research Institute, Anand Nagar, Bhopal, India

Source : Archives of virology. 2007; 152 (9) : 1637-1644

ISSN : 0304-8608

Date de publication : 2007

Pays de publication : Austria

Langue(s) : English

Type de document : Serial

Nombre de références : 22 ref.

Résumé : Outbreaks of highly pathogenic avian influenza (HPAI) H5N1 virus were reported for the first time in India during February 2006. Herein, we have sequenced and analyzed the PB2 genes of five influenza virus isolates obtained from three affected states (Gujarat, Madhya Pradesh and Maharashtra) in India during the outbreaks. In the phylogenetic analysis, the Indian isolates were grouped in the mixed-migratory bird sub-lineage of the Eurasian lineage. From the phylogenetic tree, it is evident that viruses were probably introduced to India from China via Europe because they share a direct ancestral relationship with the Indian isolates. The virus might have spread through migratory waterfowls that survived the HPAI H5N1 infection. These viruses were able to replicate in cultured cells of avian and mammalian hosts and possess lysine at position 627 of the PB2 protein, indicating that they might be able to cross the host barrier to infect mammals.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Aves; Gene; Protein; Lysine

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Vertebrata

Descripteur(s) français

Descripteur(s) : Virus grippal A; Aves; Gene; Proteine; Lysine

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Vertebrata

Localisation : INIST, Shelf number 6355, INIST No. 354000149732500050

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Development of a respiratory virus panel test for detection of twenty human respiratory viruses by use of multiplex PCR and a fluid microbead-based assay

Titre : Development of a respiratory virus panel test for detection of twenty human respiratory viruses by use of multiplex PCR and a fluid microbead-based assay

Auteur(s) : MAHONY J; CHONG S; MERANTE F; YAGHOUBIAN S; SINHA T; LISLE C; JANEZKO R

Affiliation(s) : Department of Pathology and Molecular Medicine, McMaster University, and St. Joseph's Healthcare, Hamilton, Ontario, Canada; TmBioscience Corporation, Toronto, Ontario, Canada

Source : Journal of clinical microbiology Print. 2007; 45 (9) : 2965-2970

ISSN : 0095-1137

CODEN : JCMIDW

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 10 ref.

Résumé : Virology laboratories historically have used direct fluorescent-antibody assay (DFA) and culture to detect six or seven respiratory viruses. Following the discovery of five new human respiratory viruses since 2000, there is an increasing need for diagnostic tests to detect these emerging viruses. We have developed a new test that can detect 20 different respiratory virus types/subtypes in a single 5-h test. The assay employs multiplex PCR using 14 virus-specific primer pairs, followed by a multiplexed target-specific primer extension (TSPE) reaction using 21 primers for specific respiratory virus types and subtypes. TSPE products were sorted and identified by using a fluid microsphere-based array (Universal Array; TmBioscience Corporation, Toronto, Canada) and the Luminex x-MAP system. The assay detected influenza A and B viruses; influenza A virus subtypes H1, H3, and H5 (including subtype H5N1 of the Asian lineage); parainfluenza virus types 1, 2, 3, and 4; respiratory syncytial virus types A and B; adenovirus; metapneumovirus; rhinovirus; enterovirus; and coronaviruses OC43, 229E, severe acute respiratory syndrome coronavirus, NL63, and HKU1. In a prospective evaluation using 294 nasopharyngeal swab specimens, DFA/culture detected 119 positives and the respiratory virus panel (RVP) test detected 112 positives, for a sensitivity of 97%. The RVP test detected an additional 61 positive specimens that either were not detected by DFA/culture or were positive for viruses not tested for by DFA/culture. After resolution of discordant results by using a second unique PCR assay and by using a combined reference standard of positivity, the RVP test detected 180 of 183 true positives, for a sensitivity of 98.5%, whereas DFA and culture detected only 126 of 183 true positives, for a sensitivity of 68.8%. The RVP test should improve the capabilities of hospital and public health laboratories for diagnosing viral respiratory tract infections and should assist public health agencies in identifying etiologic agents in respiratory tract infection outbreaks.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Virus; Human; Detection; Multiplex polymerase chain reaction

Desc. génériques : Virology; Microbiology; Biological sciences

Descripteur(s) français

Descripteur(s) : Virus; Homme; Detection; Reaction chaine polymerase multiplex

Desc. génériques : Virologie; Microbiologie; Sciences biologiques

Localisation : INIST, Shelf number 17088, INIST No. 354000149773760320

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Human and avian influenza viruses target different cells in the lower respiratory tract of humans and other mammals. Commentary

Titre : Human and avian influenza viruses target different cells in the lower respiratory tract of humans and other mammals. Commentary

Auteur(s) : MANSFIELD Keith G, comment; VAN RIEL Debby; MUNSTER Vincent J; DE WIT Emmie; RIMMELZWAAN Guus F; FOUCHIER Ron A M; OSTERHAUS Albert D M E; KUIKEN Thijs

Affiliation(s) : Harvard Medical School, Southborough, Massachusetts, United States; Department of Virology, Erasmus MC, Rotterdam, Netherlands

Source : The American journal of pathology. 2007; 171 (4) : 1089-1092, 1215-1223 13 p.

ISSN : 0002-9440

CODEN : AJPAA4

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Type de document : article; comments

Nombre de références : 84 ref.

Résumé : Viral attachment to the host cell is critical for tissue and species specificity of virus infections. Recently, pattern of viral attachment (PVA) in human respiratory tract was determined for highly pathogenic avian influenza virus of subtype H5N1. However, PVA of human influenza viruses and other avian influenza viruses in either humans or experimental animals is unknown. Therefore, we compared PVA of two human influenza viruses (H1N1 and H3N2) and two low pathogenic avian influenza viruses (H5N9 and H6N1) with that of H5N1 virus in respiratory tract tissues of humans, mice, ferrets, cynomolgus macaques, cats, and pigs by virus histochemistry. We found that human influenza viruses attached more strongly to human trachea and bronchi than H5N1 virus and attached to different cell types than H5N1 virus. These differences correspond to primary diagnoses of tracheobronchitis for human influenza viruses and diffuse alveolar damage for H5N1 virus. The PVA of low pathogenic avian influenza viruses in human respiratory tract resembled that of H5N1 virus, demonstrating that other properties determine its pathogenicity for humans. The PVA in human respiratory tract most closely mirrored that in ferrets and pigs for human influenza viruses and that in ferrets, pigs, and cats for avian influenza viruses.

Code(s) de classement : 002B24O; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Human; Target cell; Mammalia; Animal; Anatomic pathology; Avian influenza; Lower respiratory tract

Desc. génériques : Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Vertebrata; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Homme; Cellule cible; Mammalia; Animal; Anatomopathologie; Grippe aviaire; Voie respiratoire inferieure

Desc. génériques : Sciences médicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences médicales; Vertebrata; Infection; Virose

Localisation : INIST, Shelf number 2047, INIST No. 354000143460360120

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Le franchissement de la barriere inter-especes : dernier obstacle avant la pandémie. XXIIIe congrès national de la SFTS, 2-5 juillet 2007 - Tours; Cross-species transmission : Last obstacle before pandemic

Titre : Le franchissement de la barriere inter-especes : dernier obstacle avant la pandémie. XXIIIe congrès national de la SFTS, 2-5 juillet 2007 - Tours; Cross-species transmission : Last obstacle before pandemic

Auteur(s) : FONTANET Arnaud

Auteur(s) : Societe francaise de transfusion sanguine, Paris, France, org cong.

Affiliation(s) : Unite d'epidemiologie des maladies emergentes, batiment Laveran, 3^e etage, Institut Pasteur, 25, rue du Docteur-Roux, Paris 75015, France

Source : Transfusion clinique et biologique Paris. 2007; 14 (1) : 16-17

Informations congrès : *Societe francaise de transfusion sanguine SFTS. Congres national, *23, *Tours France, *2007-07-02

ISSN : 1246-7820

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Nombre de références : 16 ref.

Résumé : Nombre de maladies emergentes recentes (Sida, Sras, grippe aviaire) ont en commun d' etre des zoonoses liees a des virus ayant franchi la barriere inter-especes. L' amelioration des systemes de surveillance epidemiologique permet de suivre en temps reel la progression des nouvelles epidemies, tandis que les outils de biologie moleculaire modernes permettent de mieux comprendre les etapes necessaires a l' adaptation du virus a son nouvel hote. La mise en commun de ces observations met en evidence une transmissibilite moindre des souches virales en debut d' epidemie. Il est donc primordial de renforcer les systemes de surveillance epidemiologique, afin d' agir tot et fort sur des epidemies debutantes, avant que le virus ne se soit adapte a l' homme. Les mesures de controle mises en place precocement en seront d' autant plus efficaces.

Code(s) de classement : 002B05C02J

Descripteur(s) anglais

Descripteur(s) : Emerging disease; Transfusion; Barrier; Obstacle; Zoonosis

Desc. génériques : Virology; Infectious diseases; Medical sciences

Descripteur(s) français

Descripteur(s) : Maladie emergente; Transfusion; Barriere; Obstacle; Zoonose

Desc. génériques : Virologie; Maladies infectieuses; Sciences medicales

Localisation : INIST, Shelf number 13263, INIST No. 354000146769450040

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Probing the receptor interactions of an H5 avian influenza virus using a baculovirus expression system and functionalised poly(acrylic acid) ligands

Titre : Probing the receptor interactions of an H5 avian influenza virus using a baculovirus expression system and functionalised poly(acrylic acid) ligands

Auteur(s) : BARCLAY Wendy S; JONES Ian M; OSBORN Helen M I; PHILLIPSON Louisa; JUNYUAN REN; TALEVERA Guadalupe A; THOMPSON Catherine I

Affiliation(s) : School of Biological Sciences, University of Reading, Whiteknights, Reading RG6 6AJ, United Kingdom; School of Pharmacy, University of Reading, Whiteknights, Reading RG6 6AD, United Kingdom; School of Chemistry, University of Reading, Whiteknights, Reading RG6 6AD, United Kingdom

Source : Bioorganic and medicinal chemistry. 2007; 15 (12) : 4038-4047

ISSN : 0968-0896

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Notes : 3/4 p. ref. et notes

Résumé : Influenza viruses attach to host cells by binding to terminal sialic acid (Neu5Ac) on glycoproteins or glycolipids. Both the linkage of Neu5Ac and the identity of other carbohydrates within the oligosaccharide are thought to play roles in restricting the host range of the virus. In this study, the receptor specificity of an H5 avian influenza virus haemagglutinin protein that has recently infected man (influenza strain A/Vietnam/1194/04) has been probed using carbohydrate functionalised poly(acrylic acid) polymers. A baculovirus expression system that allows facile and safe analysis of the Neu5Ac binding specificity of mutants of H5 HA engineered at sites that are predicted to effect a switch in host range has also been developed.

Code(s) de classement : 002B02W; 002A05C10

Descripteur(s) anglais

Descripteur(s) : Biological receptor; Avian influenzavirus; Baculoviridae; Acrylic polymer; Ligand; Molecular interaction; Sialic acid; Glycoprotein; Glycolipid; Oligosaccharide; Hemagglutinin; Protein; Infection; Vietnam; Mutation; Prediction; Scatchard plot; Lipids; Disaccharide; Aminoglycoside

Desc. génériques : Pharmacology; Medical sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Asia

Descripteur(s) français

Descripteur(s) : Recepteur biologique; Influenzavirus aviaire; Baculoviridae; Acrylique derive polymere; Ligand; Interaction moleculaire; Sialique acide; Glycoproteine; Glycolipide; Oligoside; Hemagglutinine; Proteine; Infection; Vietnam; Mutation; Prediction; Diagramme Scatchard; Lipide; Dioside; Aminoglycoside; Glycopolymere; Lactosamine derive; Neuraminique acideN acetyl

Desc. génériques : Pharmacologie; Sciences medicales; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Asie

Localisation : INIST, Shelf number 26564, INIST No. 354000149576340080

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Effect of ultraviolet germicidal irradiation on viral aerosols

Titre : Effect of ultraviolet germicidal irradiation on viral aerosols

Auteur(s) : WALKER Christopher M; KO Gwangpyo

Affiliation(s) : University of Texas Health Science Center at Houston, Houston, TX, United States; Department of Environmental Health, Institute of Health and Environment, Seoul National University, Seoul, Korea, Republic of

Source : Environmental science and technology. 2007; 41 (15) : 5460-5465

ISSN : 0013-936X

CODEN : ESTHAG

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 37 ref.

Résumé : Ultraviolet (UV) germicidal air disinfection is an engineering method used to control the airborne transmission of pathogenic microorganisms in high-risk settings. Despite the recent emergence of respiratory viral pathogens such as SARS and avian influenza viruses, UV disinfection of pathogenic viral aerosols has not been examined. Hence, we characterized the UV disinfection of viral aerosols using the bacteriophage MS2, adenovirus, and coronavirus. Our objectives were to characterize the effect of nebulization and air sampling on the survival of important viral pathogens, quantitatively characterize and estimate the UV susceptibility of pathogenic viral aerosols, and evaluate the effect of relative humidity (RH) on the susceptibility of viral aerosols, to 254 nm UV-C. The viruses were aerosolized into an experimental chamber using a six-jet Collison nebulizer, exposed to 254 nm UV, and sampled using an AGI-30 liquid impinger. Both the MS2 and adenovirus aerosols were very resistant to UV air disinfection, with a reduction of less than 1 logarithm in viable viral aerosols at a UV dose of $2608 \mu\text{W s/cm}^2$. The susceptibility of coronavirus aerosols was 7-10 times that of the MS2 and adenovirus aerosols. Unlike bacterial aerosols, there was no significant protective effect of high RH on UV susceptibility of the tested viral aerosols. We confirmed that the UV disinfection rate differs greatly between viral aerosols and viruses suspended in liquid.

Code(s) de classement : 001D16C05A; 002A05F06

Descripteur(s) anglais

Descripteur(s) : Bioterrorism; Biological warfare; Pathogenic; Severe acute respiratory syndrome virus; Avian influenza virus; Biological contamination; Microbiology; Air pollution; Pollution control; Decontamination; Air treatment; Ultraviolet irradiation; Biocide; Phage MS2; Adenoviridae; Bioaerosol; Aerosols; Performance; Survival; Environmental factor; Disinfection

Desc. génériques : Atmospheric pollution; Pollution; Nuisances; Applied sciences; Applied microbiology; Microbiology; Biological sciences; Coronavirus; Coronaviridae; Nidovirales; Virus; Influenzavirus A; Orthomyxoviridae; Levivirus; Leviviridae; Phage

Descripteur(s) français

Descripteur(s) : Bioterrorisme; Arme biologique; Pathogene; Virus syndrome respiratoire aigu severe; Influenzavirus aviaire; Contamination biologique; Microbiologie; Pollution air; Lutte antipollution; Decontamination; Traitement air; Irradiation UV; Biocide; Bacteriophage MS2; Adenoviridae; Bioaerosol; Aerosol; Performance; Survie; Facteur milieu; Desinfection

Desc. génériques : Pollution atmospherique; Pollution; Nuisances; Sciences appliquees; Microbiologie appliquee; Microbiologie; Sciences biologiques; Coronavirus; Coronaviridae; Nidovirales; Virus; Influenzavirus A; Orthomyxoviridae; Levivirus; Leviviridae; Bacteriophage

Localisation : INIST, Shelf number 13615, INIST No. 354000150039250440

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

L'apport des nouvelles technologies en vaccinologie : Vaccination preventive et approches innovantes; New technologies for vaccine development

Titre : L'apport des nouvelles technologies en vaccinologie : Vaccination preventive et approches innovantes; New technologies for vaccine development

Auteur(s) : LECLERC Claude

Affiliation(s) : Unite de Regulation Immunitaire et Vaccinologie, Institut Pasteur 25, rue du Docteur Roux, 75015 Paris, France; Inserm, U833, Paris, France

Source : MS Medecine sciences. 2007; 23 (4) : 386-390

ISSN : 0767-0974

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Langue(s) du résumé : English

Type de document : Serial

Nombre de références : 32 ref.

Résumé : >Grippe aviaire, SRAS (syndrome respiratoire aigu severe), Chikungunya, virus du Nil occidental... La succession de ces alertes "aux virus" a reveille les peurs ancestrales de l'humanite face aux grandes epidemies du passe. En un temps ou, par sa maitrise des technologies de pointe, l'homme semble dominer le monde, le syndrome d'immunodeficiency acquise (sida), la tuberculose et le paludisme prelevent chaque annee une dime de plusieurs millions de morts. La decouverte des antibiotiques et les succes remarquables remportes par la vaccination dans l'eradication de la variole et dans la reduction de l'incidence de nombreuses maladies, telles que la poliomyelite ou la rougeole, ont, pendant quelques decennies, cree l'illusion que les maladies infectieuses appartenaient au passe. Il n'en est rien et, a l'aube de ce nouveau millenaire, les maladies infectieuses restent la principale cause de deces dans le monde. Plus que jamais, les vaccins s'averent la seule arme pour lutter efficacement contre les epidemies.

Code(s) de classement : 002A

Descripteur(s) anglais

Descripteur(s) : Technology; Vaccine; Development

Desc. génériques : Biological sciences

Descripteur(s) français

Descripteur(s) : Technologie; Vaccin; Developpement

Desc. génériques : Sciences biologiques

Localisation : INIST, Shelf number 20825, INIST No. 354000145694210290

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Erythrocyte binding preference of avian influenza H5N1 viruses

Titre : Erythrocyte binding preference of avian influenza H5N1 viruses

Auteur(s) : LOUISIROTCHANAKUL Suda; LERDSAMRAN Hatairat; WIRIYARAT Witthawat; SANGSIRIWUT Kantima; CHAICHOUNE Kridsda; POORUK Phisanu; SONGSERM Taweesak; KITPHATI Rungrueng; SAWANPANYALERT Pathom; KOMOLTRI Chulaluk; AUEWARAKUL Prasert; PUTHAVATHANA Pilaipan

Affiliation(s) : Department of Microbiology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand; Faculty of Veterinary Science, Mahidol University, Nakhon Pathom, Thailand; Department of Pathology, Faculty of Veterinary Medicine, Kasetsart University, Nakhon Pathom, Thailand; Department of Medical Sciences, Ministry of Public Health, Nonthaburi, Thailand; Division of Research Development, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand

Source : Journal of clinical microbiology Print. 2007; 45 (7) : 2284-2286

ISSN : 0095-1137

CODEN : JCMIDW

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 8 ref.

Résumé : Five erythrocyte species (horse, goose, chicken, guinea pig, and human) were used to agglutinate avian influenza H5N1 viruses by hemagglutination assay and to detect specific antibody by hemagglutination inhibition test. We found that goose erythrocytes confer a greater advantage over other erythrocyte species in both assays.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Red blood cell

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Blood cell; Zoopathogen

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Erythrocyte

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Cellule sanguine; Zoopathogène

Localisation : INIST, Shelf number 17088, INIST No. 354000149739530330

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Protection of mice from H5N1 influenza challenge by prophylactic DNA vaccination using particle mediated epidermal delivery

Titre : Protection of mice from H5N1 influenza challenge by prophylactic DNA vaccination using particle mediated epidermal delivery

Auteur(s) : SHARPE Michaela; LYNCH Debbie; TOPHAM Simon; MAJOR Diane; WOOD John; LOUDON Peter
Affiliation(s) : PowderMed Ltd., 4 Robert Robinson Avenue, Oxford Science Park, Oxford OX4 4GA, United Kingdom; National institute for Biological Standards and Control, Blanche Lane, South Mimms, Potters Bar, Hertfordshire EN6 3QG, United Kingdom

Source : Vaccine . 2007; 25 (34) : 6392-6398

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 23 ref.

Résumé : Mice were vaccinated with a DNA plasmid encoding the haemagglutinin (HA) antigen of H5N1 influenza A/Vietnam/1 194/2004 by particle mediated epidermal delivery (PMED<<sup>T<sup>M>). Vaccination led to potent anti-HA serological responses that were significantly enhanced by the inclusion of a plasmid expressing the A and B subunits of Escherichia coli heat labile enterotoxin (designated DEI-LT). Mice were vaccinated with H5 or H5/DEI-LT and challenged with 100LD50 H5N1 A/Vietnam/1 194/2004 virus. Vaccination provided considerable protection, and mice that received two doses (prime-boost) of H5/DEI-LT showed no symptoms of disease post vaccination, did not shed detectable virus and did not show any rise in anti-H5N1 HI titre post challenge, indicating that they were fully protected. These results demonstrate that the PMED technology may hold promise for the prophylaxis of pandemic influenza.

Code(s) de classement : 002A05C07

Descripteur(s) anglais

Descripteur(s) : Mouse; Influenzavirus A; Prevention; Genetic vaccine; Route of administration; Avian influenza

Desc. génériques : Immunology; Pharmacology; Virology; Microbiology; Biological sciences; Rodentia; Mammalia; Vertebrata; Orthomyxoviridae; Virus; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Souris; Influenzavirus A; Prévention; Vaccin génétique; Voie administration; Grippe aviaire

Desc. génériques : Immunologie; Pharmacologie; Virologie; Microbiologie; Sciences biologiques; Rodentia; Mammalia; Vertebrata; Orthomyxoviridae; Virus; Infection; Virose

Localisation : INIST, Shelf number 20289, INIST No. 354000146734700150

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Automated extraction of avian influenza virus for rapid detection using real-time RT-PCR

Titre : Automated extraction of avian influenza virus for rapid detection using real-time RT-PCR

Auteur(s) : TEWARI Deepanker; ZELLERS Corey; ACLAND Helen; PEDERSEN Janice C

Affiliation(s) : Microbiology Services, Pennsylvania Veterinary Laboratory, 2305 N. Cameron St, Harrisburg, PA 17110, United States; Diagnostic Virology Laboratory, National Veterinary Services Laboratories, 1800 Dayton Road, Ames, IA, United States

Source : Journal of clinical virology. 2007; 40 (2) : 142-145

ISSN : 1386-6532

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 1/4 p.

Résumé : Background: Highly pathogenic H5N1 avian influenza (AI) poses a grave risk to human health. An important aspect of influenza control is rapid diagnosis. Objectives: This study describes the efficiency of AI-RNA extraction utilizing silica-based magnetic beads with robotics and its detection with an influenza A matrix gene real-time RT-PCR from tracheal swabs, and compares it to virus isolation and manual spin column extractions. Study design: Analytical sensitivity was assessed by performing dilution analysis and detection of H2N2 AI viral RNA. Diagnostic sensitivity and specificity was assessed by analyzing tracheal swabs collected from H7N2 infected and uninfected chickens. Results: Both manual and robotic extractions detected AI virus at $1 \log_{10}$ EID₅₀/ml. Diagnostic sensitivity and specificity of matrix gene detection with the automated extraction method for chicken tracheal swab specimens was similar to that of virus isolation and the manual extraction method. There were only three discordant results among 212 tested specimens. Conclusion: The main advantages of automated robotic viral nucleic acid extraction are high throughput processing; hands-free operation; and reduction in human and technical error. This study demonstrates successful detection of influenza A virus with magnetic beads utilizing the Qiagen MagAttract cell kit on a BioRobot M48 platform.

Code(s) de classement : 002A05C10; 002B05C02J

Descripteur(s) anglais

Descripteur(s) : Avian influenzavirus; Aves; Detection; Real time; Reverse transcription polymerase chain reaction; Microbiology; Virology; Influenza A

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Infectious diseases; Medical sciences; Influenzavirus A; Orthomyxoviridae; Virus; Vertebrata; Zoopathogen; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Aves; Detection; Temps reel; Reaction chaine polymerase RT; Microbiologie; Virologie; Grippe A

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Maladies infectieuses; Sciences medicales; Influenzavirus A; Orthomyxoviridae; Virus; Vertebrata; Zoopathogene; Virose; Infection

Localisation : INIST, Shelf number 26272, INIST No. 354000149837210090

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Grippes : pas de changement notable; Influenzas : an update

Titre : Grippes : pas de changement notable; Influenzas : an update

Source : La Revue Prescrire. 2007; 27 (288) : 768-770

ISSN : 0247-7750

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial

Nombre de références : 11 ref.

Résumé : <Mathematical point> Face aux epidemies hivernales de grippe le vaccin habituel reste de mise. L'efficacite des antiviraux est tres limitee alors que leurs effets indesirables, notamment neurologiques, sont parfois graves. <Mathematical point> L' epizootie de grippe aviaire A/H5N1 a continue a faire quelques victimes humaines, par transmission des oiseaux aux humains: l' incidence est stable, environ 120 cas dont 80 deces par an dans le monde. La resistance in vitro et in vivo de ce virus grippal a l' oseltamivir semble en augmentation.

Code(s) de classement : 002B02S04; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Influenza; 2008; Winter; Review; Human; Treatment; Prevention; Vaccine; Avian influenza

Desc. génériques : Mycology; Infectious diseases; Pharmacology; Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Grippe; 2008; Hiver; Article synthese; Homme; Traitement; Prevention; Vaccin; Grippe aviaire

Desc. génériques : Mycologie; Maladies infectieuses; Pharmacologie; Sciences medicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences medicales; Virose; Infection

Localisation : INIST, Shelf number 21322, INIST No. 354000160861680240

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Influenza vaccine : The challenge of antigenic drift

Titre : Influenza vaccine : The challenge of antigenic drift

Auteur(s) : CARRAT F; FLAHAULT A

Affiliation(s) : Universite Pierre et Marie Curie, Paris 6, UMR-S 707, Paris, France; INSERM, UMR-S 707, Paris, France; Assistance Publique, Hopitaux de Paris, Paris 75012, France

Source : Vaccine . 2007; 25 (39-40) : 6852-6862

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 85 ref.

Résumé : Influenza continues to have a major worldwide impact, resulting in considerable human suffering and economic burden. The regular recurrence of influenza epidemics is thought to be caused by antigenic drift, and a number of studies have shown that sufficient changes can accumulate in the virus to allow influenza to reinfect the same host. To address this, influenza vaccine content is reviewed annually to ensure protection is maintained, despite the emergence of drift variants; however, it is not always possible to capture every significant drift, partly due to the timing of the recommendations. Vaccine mismatch can impact on vaccine effectiveness, and has significant epidemiological and economical consequences, as was seen most apparently in the 1997-1998 influenza season. To meet the challenge of antigenic drift, vaccines that confer broad protection against heterovariant strains are needed against seasonal, epidemic and pandemic influenza. In addition to the use of vaccine adjuvants, emerging research areas include development of a universal vaccine and the use of vaccines that exploit mechanisms of cross-protective immunity.

Code(s) de classement : 002A05F04

Descripteur(s) anglais

Descripteur(s) : Vaccine; Vaccination; Influenza

Desc. génériques : Applied microbiology; Microbiology; Biological sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Vaccin; Vaccination; Grippe

Desc. génériques : Microbiologie appliquée; Microbiologie; Sciences biologiques; Virose; Infection

Localisation : INIST, Shelf number 20289, INIST No. 354000149794140060

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Partial protection against H5N1 influenza in mice with a single dose of a chimpanzee adenovirus vector expressing nucleoprotein

Titre : Partial protection against H5N1 influenza in mice with a single dose of a chimpanzee adenovirus vector expressing nucleoprotein

Auteur(s) : ROY Soumitra; KOBINGER Gary P; JIANPING LIN; FIGUEREDO Joanita; CALCEDO Roberto; KOBASA Darwyn; WILSON James M

Affiliation(s) : Gene Therapy Program, Department of Pathology and Laboratory Medicine, Division of Transfusion Medicine, University of Pennsylvania, 125 S. 31st Street, Suite 2000, Philadelphia, PA 19104-4268, United States; National Microbiology Laboratory, Public Health Agency of Canada, Department of Medical Microbiology, University of Manitoba, Winnipeg, MB, Canada

Source : Vaccine . 2007; 25 (39-40) : 6845-6851

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 25 ref.

Résumé : The development of adenoviral vectors based on non-human serotypes such as the chimpanzee adenovirus simian adenovirus 24 (AdC7) may allow for their utilization in populations harboring neutralizing antibodies to common human serotypes. Because adenoviral vectors can be used to generate potent T cell responses, they may be useful as vaccines against pandemic influenza such as may be caused by the H5N1 strains that are currently endemic in avian populations. The influenza nucleoprotein (NP) is known to provide MHC Class I restricted epitopes that are effective in evoking a cytolytic response. Because there is only low sequence variation in NP sequences between different influenza strains, a T cell vaccine may provide heterosubtypic protection against a spectrum of influenza A strains. An AdC7 vector expressing the influenza A/Puerto Rico/8/34 NP was tested for its efficacy in protecting BALB/c mice against two H5N1 strains and compared to a conventional human adenovirus serotype 5 vaccine. The AdC7 NP vaccine elicited a strong anti-NP T cell response. When tested in a mouse challenge model, there was improved survival following challenge with two strains of H5N1 that have caused human outbreaks, Vietnam/1203/04 and Hong Kong/483/97, although the improved survival reached statistical significance only with the strain from Vietnam.

Code(s) de classement : 002A05C10; 002A05F04

Descripteur(s) anglais

Descripteur(s) : Mouse; Pan troglodytes; Adenoviridae; Vector; Nucleoprotein; Vaccine; Influenza A

Desc. génériques : Virology; Microbiology; Biological sciences; Applied microbiology; Microbiology; Biological sciences; Rodentia; Mammalia; Vertebrata; Simioidea; Primates; Virus; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Souris; Pan troglodytes; Adenoviridae; Vecteur; Nucleoprotéine; Vaccin; Grippe A

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Microbiologie appliquée; Microbiologie; Sciences biologiques; Rodentia; Mammalia; Vertebrata; Simioidea; Primates; Virus; Virose; Infection

Localisation : INIST, Shelf number 20289, INIST No. 354000149794140050

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Inefficient transmission of H5N1 influenza viruses in a ferret contact model

Titre : Inefficient transmission of H5N1 influenza viruses in a ferret contact model

Auteur(s) : YEN Hui Ling; LIPATOV Aleksandr S; ILYUSHINA Natalia A; GOVORKOVA Elena A; FRANKS John; YILMAZ Nezih; DOUGLAS Alan; HAY Alan; KRAUSS Scott; REHG Jerold E; HOFFMANN Erich; WEBSTER Robert G

Affiliation(s) : Departments of Infectious Diseases, St. Jude Children's Research Hospital, Memphis, Tennessee, United States; Department of Virology, Refik Saydam Hygiene Institute, Sıhhiye-Ankara, Turkey; Division of Virology, National Institute for Medical Research, London, United Kingdom; (Division of Virology) and Pathology, St. Jude Children's Research Hospital, Memphis, Tennessee, United States

Source : Journal of virology. 2007; 81 (13) : 6890-6898

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 45 ref.

Résumé : The abilities to infect and transmit efficiently among humans are essential for a novel influenza A virus to cause a pandemic. To evaluate the pandemic potential of widely disseminated H5N1 influenza viruses, a ferret contact model using experimental groups comprised of one inoculated ferret and two contact ferrets was used to study the transmissibility of four human H5N1 viruses isolated from 2003 to 2006. The effects of viral pathogenicity and receptor binding specificity (affinity to synthetic sialosaccharides with $\alpha 2,3$ or $\alpha 2,6$ linkages) on transmissibility were assessed. A/Vietnam/1203/04 and A/Vietnam/JP36-2/05 viruses, which possess "avian-like" $\alpha 2,3$ -linked sialic acid (SA) receptor specificity, caused neurological symptoms and death in ferrets inoculated with 10³ 50% tissue culture infectious doses. A/Hong Kong/213/03 and A/Turkey/65-596/06 viruses, which show binding affinity for "human-like" $\alpha 2,6$ -linked SA receptors in addition to their affinity for $\alpha 2,3$ -linked SA receptors, caused mild clinical symptoms and were not lethal to the ferrets. No transmission of A/Vietnam/1203/04 or A/Turkey/65-596/06 virus was detected. One contact ferret developed neutralizing antibodies to A/Hong Kong/213/03 but did not exhibit any clinical signs or detectable virus shedding. In two groups, one of two naive contact ferrets had detectable virus after 6 to 8 days when housed together with the A/Vietnam/JP36-2/05 virus-inoculated ferrets. Infected contact ferrets showed severe clinical signs, although little or no virus was detected in nasal washes. This limited virus shedding explained the absence of secondary transmission from the infected contact ferret to the other naive ferret that were housed together. Our results suggest that despite their receptor binding affinity, circulating H5N1 viruses retain molecular determinants that restrict their spread among mammalian species.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Transmission; Ferret; Models; Virology; Influenza A

Desc. génériques : Virology; Microbiology; Biological sciences; Fissipedia; Carnivora; Mammalia; Vertebrata; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Transmission; Furet; Modele; Virologie; Grippe A

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Fissipedia; Carnivora; Mammalia; Vertebrata; Virose; Infection

Localisation : INIST, Shelf number 13592, INIST No. 354000146560950120

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Antigenic and genetic characterization of H9N2 swine influenza viruses in China

Titre : Antigenic and genetic characterization of H9N2 swine influenza viruses in China

Auteur(s) : CONG Yan L; JUAN PU; LIU Qin F; SHUAI WANG; ZHANG Guo Z; ZHANG Xing L; FAN Wei X; BROWN Earl G; LIU Jin H

Affiliation(s) : Laboratory of Infectious Diseases, College of Veterinary Medicine, State Key Laboratory for Agrobiotechnology, China Agricultural University, Beijing 100094, China; China Animal Health and Epidemiology Center, Qingdao 266032, China; Department of Biochemistry, Microbiology and Immunology, Faculty of Medicine, University of Ottawa, ON, Canada

Source : Journal of general virology. 2007; 88 (p. 7) : 2035-2041

ISSN : 0022-1317

CODEN : JGVIAY

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 1 p.1/4

Résumé : As pigs are susceptible to infection with both avian and human influenza A viruses, they have been proposed to be an intermediate host for the generation of pandemic virus through reassortment. Antigenic and genetic characterization was performed for five swine H9N2 influenza viruses isolated from diseased pigs from different farms. The haemagglutinin (HA) antigenicity of swine H9N2 viruses was different from that of chicken H9N2 viruses prevalent in northern China. Genetic analysis revealed that all five isolates had an RLSR motif at the cleavage site of HA, which was different from those of A/duck/Hong Kong/Y280/97 (Dk/HK/Y280/97)-like viruses established in chickens in China. Phylogenetic analyses indicated that the five swine H9N2 viruses formed novel HA and neuraminidase sublineages that were related closely to those of earlier chicken H9 viruses and were also consistent with the extent of the observed antigenic variation. The six internal genes of the isolates possessed H5N1-like sequences, indicating that they were reassortants of H9 and H5 viruses. The present results indicate that avian to porcine interspecies transmission of H9N2 viruses might have resulted in the generation of viruses with novel antigenic and genetic characteristics; therefore, surveillance of swine influenza should be given a high priority.

Code(s) de classement : 002A05C10; 002A05C05

Descripteur(s) anglais

Descripteur(s) : Swine; Pig; Genetics; Influenza; China; Microbiology

Desc. génériques : Virology; Microbiology; Biological sciences; Genetics; Virology; Microbiology; Biological sciences; Artiodactyla; Ungulata; Mammalia; Vertebrata; Viral disease; Infection; Asia; Veterinary

Descripteur(s) français

Descripteur(s) : Porcin; Porc; Genetique; Grippe; Chine; Microbiologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Genetique; Virologie; Microbiologie; Sciences biologiques; Artiodactyla; Ungulata; Mammalia; Vertebrata; Virose; Infection; Asie; Veterinaire

Localisation : INIST, Shelf number 13533, INIST No. 354000146542800230

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Pathogenesis of avian influenza (H7) virus infection in mice and ferrets : Enhanced virulence of eurasian H7N7 viruses isolated from humans

Titre : Pathogenesis of avian influenza (H7) virus infection in mice and ferrets : Enhanced virulence of eurasian H7N7 viruses isolated from humans

Auteur(s) : BELSER Jessica A; XUIHUA LU; MAINES Taronna R; SMITH Catherine; YAN LI; DONIS Ruben O; KATZ Jacqueline M; TUMPEY Terrence M

Affiliation(s) : Influenza Division, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia 30333, United States; Emory University, Atlanta, Georgia 30322, United States; Canadian Centre for Human and Animal Health, Winnipeg, Manitoba, Canada

Source : Journal of virology. 2007; 81 (20) : 11139-11147

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 53 ref.

Résumé : Before 2003, only occasional case reports of human H7 influenza virus infections occurred as a result of direct animal-to-human transmission or laboratory accidents; most of these infections resulted in conjunctivitis. An increase in isolation of avian influenza A H7 viruses from poultry outbreaks and humans has raised concerns that additional zoonotic transmissions of influenza viruses from poultry to humans may occur. To better understand the pathogenesis of H7 viruses, we have investigated their ability to cause disease in mouse and ferret models. Mice were infected intranasally with H7 viruses of high and low pathogenicity isolated from The Netherlands in 2003 (Netherlands/03), the northeastern United States in 2002-2003, and Canada in 2004 and were monitored for morbidity, mortality, viral replication, and proinflammatory cytokine production in respiratory organs. All H7 viruses replicated efficiently in the respiratory tracts of mice, but only Netherlands/03 isolates replicated in systemic organs, including the brain. Only A/NL/219/03 (NL/219), an H7N7 virus isolated from a single fatal human case, was highly lethal for mice and caused severe disease in ferrets. Supporting the apparent ocular tropism observed in humans following infection with viruses of the H7 subtype, both Eurasian and North American lineage H7 viruses were detected in the mouse eye following ocular inoculation, whereas an H7N2 virus isolated from the human respiratory tract was not. Therefore, in general, the relative virulence and cell tropism of the H7 viruses in these animal models correlated with the observed virulence in humans.

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Mouse; Human; Pathogenesis; Infection; Animal; Ferret; Virulence; Virology
Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Rodentia; Mammalia; Vertebrata; Fissipedia; Carnivora

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Souris; Homme; Pathogenie; Infection; Animal; Furet; Virulence; Virologie
Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Rodentia; Mammalia; Vertebrata; Fissipedia; Carnivora

Localisation : INIST, Shelf number 13592, INIST No. 354000143477600290

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Neuroexcitatory actions of Tamiflu and its carboxylate metabolite

Titre : Neuroexcitatory actions of Tamiflu and its carboxylate metabolite

Auteur(s) : IZUMI Yukitoshi; TOKUDA Kazuhiro; O' DELL Kazuko A; ZORUMSKI Charles F; NARAHASHI Toshio

Affiliation(s) : Washington University School of Medicine, Department of Psychiatry, Box 8134, 660 S Euclid Avenue, St. Louis, MO 63110, United States; Northwestern University, Feinberg School of Medicine, Department of Molecular Pharmacology and Biological Chemistry, Chicago, IL, United States

Source : Neuroscience letters. 2007; 426 (1) : 54-58

ISSN : 0304-3940

CODEN : NELED5

Date de publication : 2007

Pays de publication : Ireland

Langue(s) : English

Type de document : Serial

Nombre de références : 20 ref.

Résumé : Oseltamivir (Tamiflu) is now being stockpiled by several governments as a first line treatment for an anticipated outbreak of avian influenza caused by H5N1. However, abnormal behaviors and death associated with the use of Tamiflu have developed into a major issue in Japan where Tamiflu is often prescribed for seasonal influenza. Thus, it is critical to determine neuropsychiatric effects of oseltamivir and to establish methods for safe administration. Using juvenile rats and rat hippocampal slices, we investigated whether oseltamivir has adverse effects on the central nervous system. Systemic injection of oseltamivir (50 mg/kg i.p.) produced no change in behavior within 2 h. However, prior injection of oseltamivir significantly altered the duration of loss of lightning reflex following ethanol injection (3.3 g/kg, i.p.). Ethanol injection in the presence of oseltamivir also resulted in enhanced hypothermia. In the CA1 region of hippocampal slices, oseltamivir (100 μ M) induced paired-pulse facilitation in population spikes without changes in excitatory postsynaptic potentials. Similarly, 3 μ M oseltamivir carboxylate, the active metabolite of oseltamivir, facilitated neuronal firing, though the facilitation did not involve GABAergic disinhibition. Moreover, oseltamivir carboxylate produced further facilitation following administration of 60 mM ethanol. These findings indicate that oseltamivir has effects on the central nervous system, especially when combined with other agents.

Code(s) de classement : 002A25

Descripteur(s) anglais

Descripteur(s) : Metabolite; Oseltamivir; Behavior; Drug interaction; Aves

Desc. génériques : Vertebrates physiology; Vertebrates neurophysiology; Nervous system; Biological sciences; Vertebrata

Descripteur(s) français

Descripteur(s) : Metabolite; Oseltamivir; Comportement; Interaction medicamenteuse; Aves

Desc. génériques : Physiologie des vertebres; Neurophysiologie des vertebres; Systeme nerveux; Sciences biologiques; Vertebrata

Localisation : INIST, Shelf number 17240, INIST No. 354000143470670110

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Perceptions related to human avian influenza and their associations with anticipated psychological and behavioral responses at the onset of outbreak in the Hong Kong Chinese general population : Influenza

Titre : Perceptions related to human avian influenza and their associations with anticipated psychological and behavioral responses at the onset of outbreak in the Hong Kong Chinese general population : Influenza

Auteur(s) : LAU Joseph T F; KIM Jean H; TSUI Hiyi; GRIFFITHS Sian

Affiliation(s) : Chinese University of Hong Kong, Hong Kong

Source : American journal of infection control. 2007; 35 (1) : 38-49

ISSN : 0196-6553

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 14 ref.

Résumé : Background: Anticipated psychological responses and perceptions of risk have not been examined prior to the outbreak of an epidemic. Methods: Using a cross-sectional, telephone survey, 805 Chinese adults in Hong Kong were interviewed anonymously in November, 2005 to examine beliefs related to H5N1 avian influenza and anticipated responses. Results: Of respondents, 71.4% and 52.4 %, respectively, believed that bird-to-human or human-to-human H5N1 transmission would occur in the next year. In the event of a bird-to-human or human-to-human outbreak in Hong Kong, many anticipated high fatality rates (70.5% and 74.4%, respectively), permanent physical damage (52.0% and 54.9%, respectively), inadequate vaccines (50.0% and 64.4%, respectively), insufficient medicine supplies (43.7% and 54.5%, respectively), inadequate hospital infection control (35.1% and 43.3%, respectively), high susceptibility of family members contracting H5N1 (13.9% and 24.3%, respectively), and impact on oneself/family worse than those of severe acute respiratory syndrome (21.2 and 25.0%, respectively). Most anticipated at least 1 of the 7 studied stress-related responses (e.g., panic) or the adoption of at least 1 of the 5 studied preventive behavioral measures (e.g., avoiding going out). Conclusion: Panic and interruption of daily routines may occur in the event of a human avian influenza outbreak. Dissemination of accurate, timely information would reduce unnecessary distress and unwanted behaviors.

Code(s) de classement : 002B05A02; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Infection; Perception; Epidemic; Hong Kong; Human; Check; Avian influenza

Desc. génériques : Infectious diseases; Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; China; Asia; Viral disease; Prevention

Descripteur(s) français

Descripteur(s) : Infection; Perception; Epidemie; Hong Kong; Homme; Controle; Grippe aviaire

Desc. génériques : Maladies infectieuses; Sciences médicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences médicales; Chine; Asie; Virose; Prevention

Localisation : INIST, Shelf number 19097, INIST No. 354000143457070070

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Pandemic influenza : What infection control professionals should know : Influenza

Titre : Pandemic influenza : What infection control professionals should know : Influenza

Auteur(s) : GOLDRICK Barbara A; GOETZ Angella M

Source : American journal of infection control. 2007; 35 (1) : 7-13

ISSN : 0196-6553

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 28 ref.

Résumé : During the last century, 3 influenza A pandemics have occurred, and pandemic influenza will inevitably occur in the future. Although the timing and severity of the next pandemic cannot be predicted, the probability that a pandemic will occur has increased based on the current outbreaks of A(H5N1) in Asia, Europe, and Africa. Because of these widespread outbreaks, the World Health Organization declared a phase 3 pandemic alert in the fall of 2005. Early detection is essential to prevent the spread of avian influenza. Planning now can be achieved by integrating interventions to ensure a prompt and effective response to a pandemic. This article provides an overview of the current status of A(H5N1) influenza worldwide and recommendations for the prevention and control of avian influenza should it emerge in humans in the United States.

Code(s) de classement : 002B05A02; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Influenza; Check

Desc. génériques : Infectious diseases; Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Viral disease; Infection; Prevention

Descripteur(s) français

Descripteur(s) : Grippe; Controle; Pandemie

Desc. génériques : Maladies infectieuses; Sciences médicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences médicales; Virose; Infection; Prevention

Localisation : INIST, Shelf number 19097, INIST No. 354000143457070020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

A survey of human cases of H5N1 avian influenza reported by the WHO before June 2006 for infection control

Titre : A survey of human cases of H5N1 avian influenza reported by the WHO before June 2006 for infection control

Auteur(s) : CHEN Ji Ming; CHEN Ji Wang; DAI Jian Jun; SUN Ying Xue

Affiliation(s) : China Animal Health and Epidemiology Center, Qingdao, China; Department of Medicine, Northwestern University, Chicago, IL, United States; College of Veterinary Sciences, Nanjing Agricultural University, Nanjing, China

Source : American journal of infection control. 2007; 35 (5) : 351-353

ISSN : 0196-6553

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 8 ref.

Résumé : H5N1 avian influenza has been widely spreading in fowls in the Eastern Hemisphere and caused hundreds of severe human cases. Here, the information of the 224 human cases of H5N1 avian influenza reported by the World Health Organization before June 2006 were surveyed and analyzed. The results suggested that human infections escalated in the past 3 years, and control of animal H5N1 influenza, avoidance of high-risk behaviors, and proper disposal of diseased or dead fowls are vital for the prevention of the human infections. Age distribution of the human cases demonstrated that older people are more immune to the infection, possibly because of the cross protectivity induced by their previous infections with human influenza A viruses. This survey also suggested that live vaccines against human influenza may be of utility in the prevention of the avian influenza virus infections in humans, and new preventive measures should be considered for the control of animal H5N1 influenza epidemics, which are likely more serious than indicated by official reports.

Code(s) de classement : 002B05A02; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Infection; Survey; Check; Human; Avian influenza

Desc. génériques : Infectious diseases; Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Viral disease; Prevention

Descripteur(s) français

Descripteur(s) : Infection; Enquete; Controle; Homme; Grippe aviaire

Desc. génériques : Maladies infectieuses; Sciences médicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences médicales; Virose; Prevention

Localisation : INIST, Shelf number 19097, INIST No. 354000160897820110

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

An avian influenza H5N1 virus that binds to a human-type receptor

Titre : An avian influenza H5N1 virus that binds to a human-type receptor

Auteur(s) : AUEWARAKUL Prasert; SUPTAWIWAT Ornpreeya; KONGCHANAGUL Alita; SANGMA Chak; SUZUKI Yasuo; UNGCHUSAK Kumnuan; LOUISIRIROTCHANAKUL Suda; LERDSAMRAN Hatairat; POORUK Phisanu; THITITHANYANONT Arunee; PITTAYAWONGANON Chakrarat; GUO Chao Tan; HIRAMATSU Hiroaki; JAMPANGERN Wipawee; CHUNSUTTHIWAT Supamit; PUTHAVATHANA Pilaipan

Affiliation(s) : Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand; Faculty of Science, Kasetsart University, Bangkok, Thailand; College of Life and Health Sciences, Chubu University, Kasugai, Japan; Bureau of Epidemiology, Thailand; Faculty of Science, Mahidol University, Bangkok, Thailand; Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand; Department of Disease Control, Bangkok, Thailand

Source : Journal of virology. 2007; 81 (18) : 9950-9955

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 20 ref.

Résumé : Avian influenza viruses preferentially recognize sialosugar chains terminating in sialic acid- α 2,3-galactose (SAA2,3Gal), whereas human influenza viruses preferentially recognize SA α 2,6Gal. A conversion to SAA2,6Gal specificity is believed to be one of the changes required for the introduction of new hemagglutinin (HA) subtypes to the human population, which can lead to pandemics. Avian influenza H5N1 virus is a major threat for the emergence of a pandemic virus. As of 12 June 2007, the virus has been reported in 45 countries, and 312 human cases with 190 deaths have been confirmed. We describe here substitutions at position 129 and 134 identified in a virus isolated from a fatal human case that could change the receptor-binding preference of HA of H5N1 virus from SAA2,3Gal to both SAA2,3Gal and SA α 2,6Gal. Molecular modeling demonstrated that the mutation may stabilize SA α 2,6Gal in its optimal cis conformation in the binding pocket. The mutation was found in approximately half of the viral sequences directly amplified from a respiratory specimen of the patient. Our data confirm the presence of H5N1 virus with the ability to bind to a human-type receptor in this patient and suggest the selection and expansion of the mutant with human-type receptor specificity in the human host environment.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Avian influenzavirus; Human; Biological receptor; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Homme; Recepteur biologique; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000160833630320

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Molecular and antigenic evolution and geographical spread of H5N1 highly pathogenic avian influenza viruses in western Africa

Titre : Molecular and antigenic evolution and geographical spread of H5N1 highly pathogenic avian influenza viruses in western Africa

Auteur(s) : DUCATEZ M F; OLINGER C M; OWOADE A A; TARNAGDA Z; TAHITA M C; SOW A; DE LANDTSHEER S; AMMERLAAN W; OUEDRAOGO J B; OSTERHAUS A D M E; FOUCHIER R A M; MULLER C P

Affiliation(s) : Institute of Immunology, National Public Health Laboratory, 20A rue Auguste Lumiere, 1950 Luxembourg, Luxemburg; Department of Veterinary Medicine, University of Ibadan, Ibadan, Nigeria; Institut de Recherche en Sciences de la Sante, 399 Avenue de la liberte, BP 545, Bobo-Dioulasso, Burkina Faso; Laboratoire National de l'Elevage, 03 BP 7026, Ouagadougou, Burkina Faso; Department of Virology, Erasmus Medical Center, Dr Molewaterplein 50, 3015 GE Rotterdam, Netherlands

Source : Journal of general virology. 2007; 88 (p. 8) : 2297-2306

ISSN : 0022-1317

CODEN : JGVIAY

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 1 p.

Résumé : In Africa, highly pathogenic avian influenza H5N1 virus was first detected in northern Nigeria and later also in other regions of the country. Since then, seven other African countries have reported H5N1 infections. This study reports a comparison of full-length genomic sequences of H5N1 isolates from seven chicken farms in Nigeria and chicken and hooded vultures in Burkina Faso with earlier H5N1 outbreaks worldwide. In addition, the antigenicity of Nigerian H5N1 isolates was compared with earlier strains. All African strains clustered within three sublineages denominated A (south-west Nigeria, Niger), B (south-west Nigeria, Egypt, Djibouti) and C (northern Nigeria, Burkina Faso, Sudan, Cote d'Ivoire), with distinct nucleotide and amino acid signatures and distinct geographical distributions within Africa. Probable non-African ancestors within the west Asian/Russian/European lineage distinct from the south-east Asian lineages were identified for each sublineage. All reported human cases in Africa were caused by sublineage B. Substitution rates were calculated on the basis of sequences from 11 strains from a single farm in south-west Nigeria. As H5N1 emerged essentially at the same time in the north and south-west of Nigeria, the substitution rates confirmed that the virus probably did not spread from the north to the south, given the observed sequence diversity, but that it entered the country via three independent introductions. The strains from Burkina Faso seemed to originate from northern Nigeria. At least two of the sublineages also circulated in Europe in 2006 as seen in Germany, further suggesting that the sublineages had already emerged outside of Africa and seemed to have followed the east African/west Asian and Black Sea/Mediterranean flyways of migratory birds.

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Molecular evolution; Pathogenicity; Africa; Microbiology

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Evolution moléculaire; Pouvoir pathogène; Afrique; Microbiologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13533, INIST No. 354000150008220270

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Human parainfluenza viruses hPIV1 and hPIV3 bind oligosaccharides with α -2-3-linked sialic acids that are distinct from those bound by H5 avian influenza virus hemagglutinin

Titre : Human parainfluenza viruses hPIV1 and hPIV3 bind oligosaccharides with α -2-3-linked sialic acids that are distinct from those bound by H5 avian influenza virus hemagglutinin

Auteur(s) : AMONSEN Mary; SMITH David F; CUMMINGS Richard D; AIR Gillian M

Affiliation(s) : Department of Biochemistry and Molecular Biology, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, United States; Department of Biochemistry and Consortium for Functional Glycomics Core H, Emory University School of Medicine, Atlanta, Georgia, United States

Source : Journal of virology. 2007; 81 (15) : 8341-8345

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 19 ref.

Résumé : We investigated the binding of human parainfluenza virus types 1 and 3 (hPIV¹ and hPIV³, respectively) to the glycan array of the Consortium for Functional Glycomics and binding and their release from erythrocytes under conditions where neuraminidase is inactive or active. hPIV¹ and hPIV³ bind modifications of Neu5Ac α -2-3Gal β -1-4GlcNAc, including the sialyl-Lewis^x motif and structures containing 6-sulfogalactose. hPIV¹ and hPIV³ thus bind typical N-linked glycans, in contrast to avian influenza virus H5 hemagglutinin (J. Stevens, O. Blixt, T. M. Tumpey, J. K. Taubenberger, J. C. Paulson, and I. A. Wilson, Science 312:404-410, 2006), which binds less-common motifs. While the receptor is not the sole determinant of tropism, hPIV or H5 influenza virus infection of specific cells that express receptors may contribute to their different pathologies.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Human; Avian influenzavirus; Oligosaccharide; Sialic acid; Hemagglutinin; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Homme; Influenzavirus aviaire; Oligoside; Sialique acide; Hemagglutinine; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000149980000520

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

The H5N1 influenza virus NS genes selected after 1998 enhance virus replication in mammalian cells

Titre : The H5N1 influenza virus NS genes selected after 1998 enhance virus replication in mammalian cells

Auteur(s) : TWU Karen Y; KUO Rei Lin; MARKLUND Jesper; KRUG Robert M

Affiliation(s) : Institute for Cellular and Molecular Biology, Section of Molecular Genetics and Microbiology, University of Texas at Austin, Austin, Texas 78712, United States

Source : Journal of virology. 2007; 81 (15) : 8112-8121

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 35 ref.

Résumé : The NS1A proteins of human influenza A viruses bind CPSF30, a cellular factor required for the processing of cellular pre-mRNAs, thereby inhibiting the production of all cellular mRNAs, including beta interferon mRNA. Here we show that the NS1A protein of the pathogenic H5N1 influenza A/Hong Kong/483/97 (HK97) virus isolated from humans has an intrinsic defect in CPSF30 binding. It does not bind CPSF30 in vitro and causes high beta interferon mRNA production and reduced virus replication in MDCK cells when expressed in a recombinant virus in which the other viral proteins are encoded by influenza A/Udorn/72. We traced this defect to the identities of amino acids 103 and 106 in the HK97 NS1A protein, which differ from the consensus amino acids, F and M, respectively, found in the NS1A proteins of almost all human influenza A virus strains. X-ray crystallography has shown that F103 and M106, which are not part of the CPSF30 binding pocket of the NS1A protein, stabilize the NS1A-CPSF30 complex. In contrast to the HK97 NS1A protein, the NS1A proteins of H5N1 viruses isolated from humans after 1998 contain F103 and M106 and hence bind CPSF30 in vitro and do not attenuate virus replication. The HK97 NS1A protein is less attenuating when expressed in a virus that also encodes the other internal HK97 proteins and under these conditions binds to CPSF30 to a substantial extent in vivo. Consequently, these internal HK97 proteins largely compensate for the absence of F103 and M106, presumably by stabilizing the NS1A-CPSF30 complex.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Mammalia; Gene; Replication; In vitro; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus; Vertebrata

Descripteur(s) français

Descripteur(s) : Influenzavirus; Mammalia; Gene; Replication; In vitro; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus; Vertebrata

Localisation : INIST, Shelf number 13592, INIST No. 354000149980000300

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Molecular changes in the polymerase genes (PA and PB1) associated with high pathogenicity of H5N1 influenza virus in mallard ducks

Titre : Molecular changes in the polymerase genes (PA and PB1) associated with high pathogenicity of H5N1 influenza virus in mallard ducks

Auteur(s) : HULSE POST D J; FRANKS J; BOYD K; SALOMON R; HOFFMANN E; YEN H L; WEBBY R J; WALKER D; NGUYEN T D; WEBSTER R G

Affiliation(s) : St. Jude Children's Research Hospital, Department of Infectious Diseases, Division of Virology, Memphis, Tennessee, United States; St. Jude Children's Research Hospital, Animal Resources Center, Memphis, Tennessee, United States; Department of Virology, National Institute of Veterinary Research, Ministry of Agriculture and Rural Development, Hanoi, Viet Nam

Source : Journal of virology. 2007; 81 (16) : 8515-8524

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 41 ref.

Résumé : The highly pathogenic (HP) influenza viruses H5 and H7 are usually nonpathogenic in mallard ducks. However, the currently circulating HP H5N1 viruses acquired a different phenotype and are able to cause mortality in mallards. To establish the molecular basis of this phenotype, we cloned the human A/Vietnam/ 1203/04 (H5N1) influenza virus isolate that is highly pathogenic in ferrets, mice, and mallards and found it to be a heterogeneous mixture. Large-plaque isolates were highly pathogenic to ducks, mice, and ferrets, whereas small-plaque isolates were nonpathogenic in these species. Sequence analysis of the entire genome revealed that the small-plaque and the large-plaque isolates differed in the coding of five amino acids. There were two differences in the hemagglutinin (HA) gene (K52T and A544V), one in the PA gene (T515A), and two in the PB1 gene (K207R and Y436H). We inserted the amino acid changes into the wild-type reverse genetic virus construct to assess their effects on pathogenicity in vivo. The HA gene mutations and the PB1 gene K207R mutation did not alter the HP phenotype of the large-plaque virus, whereas constructs with the PA (T515A) and PB1 (Y436H) gene mutations were nonpathogenic in orally inoculated ducks. The PB1 (Y436H) construct was not efficiently transmitted in ducks, whereas the PA (T515A) construct replicated as well as the wild-type virus did and was transmitted efficiently. These results show that the PA and PB1 genes of HP H5N1 influenza viruses are associated with lethality in ducks. The mechanisms of lethality and the perpetuation of this lethal phenotype in ducks in nature remain to be determined.

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Gene; Pathogenicity; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus; Gene; Pouvoir pathogène; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000146711770140

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Multiple anti-interferon actions of the influenza A virus NS1 protein

Titre : Multiple anti-interferon actions of the influenza A virus NS1 protein

Auteur(s) : KOCHS Georg; GARCIA SASTRE Adolfo; MARTINEZ SOBRIDO Luis

Affiliation(s) : Department of Virology, University of Freiburg, 79008 Freiburg, Germany; Department of Microbiology, Mount Sinai School of Medicine, New York, New York 10029, United States; Emerging Pathogens Institute, Mount Sinai School of Medicine, New York, New York 10029, United States

Source : Journal of virology. 2007; 81 (13) : 7011-7021

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 76 ref.

Résumé : The replication and pathogenicity of influenza A virus (FLUAV) are controlled in part by the alpha/beta interferon (IFN- α / β) system. This virus-host interplay is dependent on the production of IFN- α / β and on the capacity of the viral nonstructural protein NS1 to counteract the IFN system. Two different mechanisms have been described for NS1, namely, blocking the activation of IFN regulatory factor 3 (IRF3) and blocking posttranscriptional processing of cellular mRNAs. Here we directly compare the abilities of NS1 gene products from three different human FLUAV (H1N1) strains to counteract the antiviral host response. We found that A/PR/8/34 NS1 has a strong capacity to inhibit IRF3 and activation of the IFN- β promoter but is unable to suppress expression of other cellular genes. In contrast, the NS1 proteins of A/Tx/36/91 and of A/BM/1/18, the virus that caused the Spanish influenza pandemic, caused suppression of additional cellular gene expression. Thus, these NS1 proteins prevented the establishment of an IFN-induced antiviral state, allowing virus replication even in the presence of IFN. Interestingly, the block in gene expression was dependent on a newly described NS1 domain that is important for interaction with the cleavage and polyadenylation specificity factor (CPSF) component of the cellular pre-mRNA processing machinery but is not functional in A/PR/8/34 NS1. We identified the Phe-103 and Met-106 residues in NS1 as being critical for CPSF binding, together with the previously described C-terminal binding domain. Our results demonstrate the capacity of FLUAV NS1 to suppress the antiviral host defense at multiple levels and the existence of strain-specific differences that may modulate virus pathogenicity.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Interferon; Cytokine; Protein; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Virus grippal A; Interferon; Cytokine; Protéine; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000146560950240

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Immunogenicity of influenza virus vaccine is increased by anti-gal-mediated targeting to antigen-presenting cells

Titre : Immunogenicity of influenza virus vaccine is increased by anti-gal-mediated targeting to antigen-presenting cells

Auteur(s) : ABDEL MOTAL Ussama M; GUAY Heath M; WIGGLESWORTH Kim; WELSH Raymond M; GALILI Uri

Affiliation(s) : Department of Medicine, University of Massachusetts Medical School, Worcester, Massachusetts 01605, United States; Department of Pathology, University of Massachusetts Medical School, Worcester, Massachusetts 01605, United States

Source : Journal of virology. 2007; 81 (17) : 9131-9141

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 46 ref.

Résumé : This study describes a method for increasing the immunogenicity of influenza virus vaccines by exploiting the natural anti-Gal antibody to effectively target vaccines to antigen-presenting cells (APC). This method is based on enzymatic engineering of carbohydrate chains on virus envelope hemagglutinin to carry the α -Gal epitope (Gal α 1-3Gal β 1-4GlcNAc-R). This epitope interacts with anti-Gal, the most abundant antibody in humans (1% of immunoglobulins). Influenza virus vaccine expressing α -Gal epitopes is opsonized in situ by anti-Gal immunoglobulin G. The Fc portion of opsonizing anti-Gal interacts with Fc γ receptors on APC and induces effective uptake of the vaccine virus by APC. APC internalizes the opsonized virus to transport it to draining lymph nodes for stimulation of influenza virus-specific T cells, thereby eliciting a protective immune response. The efficacy of such an influenza vaccine was demonstrated in α 1,3galactosyltransferase (α 1,3GT) knockout mice, which produce anti-Gal, using the influenza virus strain A/Puerto Rico/8/34-H1N1 (PR8). Synthesis of α -Gal epitopes on carbohydrate chains of PR8 virus (PR8 α) was catalyzed by recombinant α 1,3GT, the glycosylation enzyme that synthesizes α -Gal epitopes in cells of nonprimate mammals. Mice immunized with PR8 α displayed much higher numbers of PR8-specific CD8⁺ and CD4⁺ T cells (determined by intracellular cytokine staining and enzyme-linked immunospot assay) and produced anti-PR8 antibodies with much higher titers than mice immunized with PR8 lacking α -Gal epitopes. Mice immunized with PR8 α also displayed a much higher level of protection than PR8 immunized mice after being challenged with lethal doses of live PR8 virus. We suggest that a similar method for increasing immunogenicity may be applicable to avian influenza vaccines.

Code(s) de classement : 002A05C10; 002A05C07

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Immunogenicity; Vaccine; Targeting; Target; Accessory cell; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Immunology; Pharmacology; Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus; Immunogenicité; Vaccin; Ciblage; Cible; Cellule accessoire; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Immunologie; Pharmacologie; Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000161575220260

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

The Mx1 gene protects mice against the pandemic 1918 and highly lethal human H5N1 influenza viruses

Titre : The Mx1 gene protects mice against the pandemic 1918 and highly lethal human H5N1 influenza viruses

Auteur(s) : TUMPEY Terrence M; SZRETTTER Kristy J; VAN HOEVEN Neal; KATZ Jacqueline M; KOCHS Georg; HALLER Otto; GARCIA SASTRE Adolfo; STAEHEL Peter

Affiliation(s) : Influenza Division, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia 30333, United States; Department of Virology, University of Freiburg, 79104 Freiburg, Germany; Department of Microbiology, Mount Sinai School of Medicine, New York, New York 10029, United States; Department of Medicine, Mount Sinai School of Medicine, New York, New York 10029, United States; Division of Infectious Diseases, and Emerging Pathogens Institute, Mount Sinai School of Medicine, New York, New York 10029, United States

Source : Journal of virology. 2007; 81 (19) : 10818-10821

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 17 ref.

Résumé : Mice carrying a wild-type Mx1 gene (Mx1^{+/+}) differ from standard laboratory mice (Mx1^{-/-}) in being highly resistant to infection with common laboratory strains of influenza A virus. We report that Mx1 also protects mice against the pandemic human 1918 influenza virus and a highly lethal human H5N1 strain from Vietnam. Resistance to H5N1 of Mx1^{+/+} but not Mx1^{-/-} mice was enhanced if the animals were treated with a single dose of exogenous alpha interferon before infection. Thus, the interferon-induced resistance factor Mx1 represents a key component of the murine innate immune system that mediates protection against epidemic and pandemic influenza viruses.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Mouse; Human; Gene; Prevention; Animal; Influenza; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Rodentia; Mammalia; Vertebrata; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Souris; Homme; Gene; Prevention; Animal; Grippe; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Rodentia; Mammalia; Vertebrata; Virose; Infection

Localisation : INIST, Shelf number 13592, INIST No. 354000160854590600

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Evaluation of replication and pathogenicity of avian influenza a H7 subtype viruses in a mouse model

Titre : Evaluation of replication and pathogenicity of avian influenza a H7 subtype viruses in a mouse model

Auteur(s) : JOSEPH Tomy; MCAULIFFE Josephine; BIN LU; HONG JIN; KEMBLE George; SUBBARAO Kanta
Affiliation(s) : Laboratory of Infectious Diseases, NIAID, NIH, Bethesda, Maryland 20892, United States; MedImmune Vaccines, Inc, Mountain View, California 94043, United States

Source : Journal of virology. 2007; 81 (19) : 10558-10566

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 31 ref.

Résumé : Avian influenza A H7 subtype viruses pose a significant threat to human health because of their ability to transmit directly from domestic poultry to humans and to cause disease and, sometimes, death. Although it is important to develop vaccines against viruses of this subtype, very limited information is available on the immune response and pathogenesis of H7 viruses in animal models such as mice and ferrets. Ten H7 viruses were selected for possible vaccine development on the basis of their phylogenetic relationships and geographical locations. The virulence of the 10 viruses for mice and the immunogenicity of the viruses in mice and ferrets were evaluated to study the extent of antigenic relatedness and the level of cross-reactivity of antibodies. Most of the viruses showed similar patterns of cross-reactivity with mouse and ferret antisera. The Eurasian viruses elicited broadly cross-reactive antibodies that neutralized viruses from both Eurasian and North American lineages, but the converse was not true. A subset of the viruses was also evaluated for the ability to replicate and cause disease in BALB/c mice following intranasal administration. H7 subtype viruses were able to infect mice without adaptation and manifested different levels of lethality and kinetics of replication. On the basis of phylogenetic data, induction of broadly cross-neutralizing antibodies in mouse and ferret antisera, and their ability to replicate in mice, we have selected A/Netherlands/219/03 (subtype H7N7) and A/chicken/BC/CN-7/04 (subtype H7N3) viruses for vaccine development. The mouse model can be used for the preclinical evaluation of these vaccines against H7 subtype viruses.

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Evaluation; Replication; Pathogenicity; Subtype; Animal model; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Evaluation; Replication; Pouvoir pathogène; Soustype; Modèle animal; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000160854590340

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Establishment of influenza a virus (H6N1) in minor poultry species in southern China

Titre : Establishment of influenza a virus (H6N1) in minor poultry species in southern China

Auteur(s) : CHEUNG C L; VIJAYKRISHNA D; SMITH G J D; FAN X H; ZHANG J X; BAHL J; DUAN L; HUANG K; TAI H; WANG J; POON L L M; PEIRIS J S M; CHEN H; GUAN Y

Affiliation(s) : State Key Laboratory of Emerging Infectious Diseases, Department of Microbiology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, 21 Sassoon Road, Pokfulam, Hong Kong; International Institute of Infection and Immunity, Shantou University, Shantou, Guangdong 515031, China

Source : Journal of virology. 2007; 81 (19) : 10402-10412

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 32 ref.

Résumé : An H6N1 virus, A/teal/Hong Kong/W312/97 (W312), was isolated during the "bird flu" incident in Hong Kong in 1997. Genetic analysis suggested that this virus might be the progenitor of the A/Hong Kong/156/97 (HK/97) H5N1 virus, as seven of eight gene segments of those viruses had a common source. Continuing surveillance in Hong Kong showed that a W312-like virus was prevalent in quail and pheasants in 1999; however, the further development of H6N1 viruses has not been investigated since 2001. Here we report influenza virus surveillance data collected in southern China from 2000 to 2005 that show that H6N1 viruses have become established and endemic in minor poultry species and replicate mainly in the respiratory tract. Phylogenetic analysis indicated that all H6N1 isolates had W312-like hemagglutinin and neuraminidase genes. However, reassortment of internal genes between different subtype virus lineages, including H5N1, H9N2, and other avian viruses, generated multiple novel H6N1 genotypes in different types of poultry. These novel H6N1/N2 viruses are double, triple, or even quadruple reassortants. Reassortment between a W312-like H6N1 virus and an A/quail/Hong Kong/G1/97 (HK/97)-like H9N2 virus simultaneously generated novel H6N2 subtype viruses that were persistent in poultry. Molecular analyses suggest that W312-like viruses may not be the precursors of HK/97 virus but reassortants from an HK/97-like virus and another unidentified H6 subtype virus. These results provide further evidence of the pivotal role of the live poultry market system of southern China in generating increased genetic diversity in influenza viruses in this region.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Poultry; Species; China; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Asia; Veterinary

Descripteur(s) français

Descripteur(s) : Virus grippal A; Volaille; Espece; Chine; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Asie; Veterinaire

Localisation : INIST, Shelf number 13592, INIST No. 354000160854590190

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

The genesis and evolution of H9N2 influenza viruses in poultry from southern China, 2000 to 2005

Titre : The genesis and evolution of H9N2 influenza viruses in poultry from southern China, 2000 to 2005

Auteur(s) : XU K M; SMITH G J D; BAHL J; DUAN L; TAI H; VIJAYKRISHNA D; WANG J; ZHANG J X; LI K S; FAN X H; WEBSTER R G; CHEN H; PEIRIS J S M; GUAN Y

Affiliation(s) : International Institute of Infection and Immunity, Shantou University, Shantou, Guangdong 515031, China; State Key Laboratory of Emerging Infectious Diseases, Department of Microbiology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, 21 Sassoon Road, Pokfulam, Hong Kong; Virology Division, Department of Infectious Diseases, St. Jude Children's Research Hospital, Memphis, Tennessee 38105, United States

Source : Journal of virology. 2007; 81 (19) : 10389-10401

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 31 ref.

Résumé : H9N2 influenza viruses have become established in terrestrial poultry in different Asian countries over the last 2 decades. Our previous study demonstrated that quail harbor increasingly diverse novel H9N2 reassortants, including both Chicken/Beijing/1/94 (Ck/Bei-like) and Quail/Hong Kong/G1/97 (G1-like) viruses. However, since 1999, the genesis and evolution of H9N2 viruses in different types of poultry have not been investigated systematically. In the present study, H9N2 viruses isolated from chickens, ducks, and other minor poultry species were characterized genetically and antigenically. Our findings demonstrate that Ck/Bei-like H9N2 viruses have been introduced into many different types of poultry in southern China, including quail, partridges, chukar, pheasant, guinea fowl, and domestic ducks, while G1-like viruses were commonly detected in quail, less frequently detected in other minor poultry species, and not detected in chickens and ducks. Genetic analysis revealed 35 genotypes of H9N2 viruses, including 14 novel genotypes that have not been recognized before. Our results also suggested that two-way interspecies transmission exists between different types of poultry. Our study demonstrates that the long-term cocirculation of multiple virus lineages (e.g., H5N1 and H9N2 viruses) in different types of poultry has facilitated the frequent reassortment events that are mostly responsible for the current great genetic diversity in H9N2 and H5N1 influenza viruses in this region. This situation favors the emergence of influenza viruses with pandemic potential.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenza; Poultry; China; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Viral disease; Infection; Asia; Veterinary

Descripteur(s) français

Descripteur(s) : Grippe; Volaille; Chine; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virose; Infection; Asie; Veterinaire

Localisation : INIST, Shelf number 13592, INIST No. 354000160854590180

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Persistent host markers in pandemic and H5N1 influenza viruses

Titre : Persistent host markers in pandemic and H5N1 influenza viruses

Auteur(s) : FINKELSTEIN David B; MUKATIRA Suraj; MEHTA Perdeep K; OBENAUER John C; XIAOPING SU; WEBSTER Robert G; NAEVE Clayton W

Affiliation(s) : Hartwell Center for Bioinformatics and Biotechnology, St. Jude Children's Research Hospital, 332 North Lauderdale Street, Memphis, Tennessee 38105-2794, United States; Department of Infectious Diseases, St. Jude Children's Research Hospital, 332 North Lauderdale Street, Memphis, Tennessee 38105-2794, United States; Department of Pathology, University of Tennessee Health Science Center, Memphis, Tennessee 38105, United States

Source : Journal of virology. 2007; 81 (19) : 10292-10299

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 50 ref.

Résumé : Avian influenza viruses have adapted to human hosts, causing pandemics in humans. The key host-specific amino acid mutations required for an avian influenza virus to function in humans are unknown. Through multiple-sequence alignment and statistical testing of each aligned amino acid, we identified markers that discriminate human influenza viruses from avian influenza viruses. We applied strict thresholds to select only markers which are highly preserved in human influenza virus isolates over time. We found that a subset of these persistent host markers exist in all human pandemic influenza virus sequences from 1918, 1957, and 1968, while others are acquired as the virus becomes a seasonal influenza virus. We also show that human H5N1 influenza viruses are significantly more likely to contain the amino acid predominant in human strains for a few persistent host markers than avian H5N1 influenza viruses. This sporadic enrichment of amino acids present in human-hosted viruses may indicate that some H5N1 viruses have made modest adaptations to their new hosts in the recent past. The markers reported here should be useful in monitoring potential pandemic influenza viruses.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenza; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Grippe; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virose; Infection

Localisation : INIST, Shelf number 13592, INIST No. 354000160854590090

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Biological evaluation of anti-influenza viral activity of semi-synthetic catechin derivatives

Titre : Biological evaluation of anti-influenza viral activity of semi-synthetic catechin derivatives

Auteur(s) : JAE MIN SONG; KI DUK PARK; KWANG HEE LEE; YOUNG HO BYUN; JU HEE PARK; SUNG HAN KIM; JAE HONG KIM; BAIK LIN SEONG

Affiliation(s) : Department of Biotechnology, College of Engineering, Yonsei University, Seoul, Korea, Republic of; Nutrex Technology, Seocho 3-dong, Seocho-gu, Seoul, Korea, Republic of; College of Veterinary Medicine, Seoul National University, Seoul, Korea, Republic of; Protheon, Yonsei Engineering Complex, Shinchon-dong, Seodaemun-gu, Seoul, Korea, Republic of

Source : Antiviral research. 2007; 76 (2) : 178-185

ISSN : 0166-3542

CODEN : ARSRDR

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 3/4 p.

Résumé : Catechin derivatives with different alkyl chain length and aromatic ring substitutions at the 3-hydroxyl group were synthesized from epigallocatechin (EGC) and (+)-catechin (C) and their anti-influenza viral activity were evaluated in vitro and in ovo. Pronounced antiviral activity was observed for derivatives carrying moderate chain length (7-9 carbons) as compared to those with aromatic rings, whereas the 5'-hydroxyl group of the trihydroxy benzyl moiety did not significantly contribute to antiviral activity. The derivatives exerted inhibitory effects for all six influenza subtypes tested including three major types of currently circulating human influenza viruses (A/H1N1, A/H3N2 and B type), H2N2 and H9N2 avian influenza virus. The compounds strongly inhibited adsorption of the viruses on red blood cell (RBC). They also restricted the growth of avian influenza virus in ovo with minimum inhibition concentration (MIC) of 5-10 μ M far exceeding the neuraminidase (NA) inhibitor oseltamivir or M2 proton channel inhibitor amantadine. The antiviral activity appears to be mediated by interaction with hemagglutinin (HA)/viral membrane rendering HA less fusogenic at the initial stage of infection. The broad spectrum activity against various subtypes of influenza viruses may complement the limitations of current antivirals and contribute for managing potentially emerging influenza pandemic. The structure-activity data of catechin derivatives may usefully guideline future research endeavors for applying green tea catechins as alternative anti-viral agents.

Code(s) de classement : 002B02S05; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Structure activity relation; Influenza; Flavonoid; Polyphenol; Catechin; Influenzavirus; Hemagglutinin; Antiviral; In vitro; Mechanism of action; Avian influenzavirus

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Viral disease; Infection; Orthomyxoviridae; Virus; Influenzavirus A; Phenols

Descripteur(s) français

Descripteur(s) : Relation structure activite; Grippe; Flavonoide; Polyphenol; Catechine; Influenzavirus; Hemagglutinine; Antiviral; In vitro; Mecanisme action; Influenzavirus aviaire; Catechine derive

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences médicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences médicales; Virose; Infection; Orthomyxoviridae; Virus; Influenzavirus A; Phenols

Localisation : INIST, Shelf number 18839, INIST No. 354000149806930100

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Immunization by avian H5 influenza hemagglutinin mutants with altered receptor binding specificity

Titre : Immunization by avian H5 influenza hemagglutinin mutants with altered receptor binding specificity

Auteur(s) : YANG Zhi Yong; WEI Chih Jen; KONG Wing Pui; LAN WU; LING XU; SMITH David F; NABEL Gary J

Affiliation(s) : Vaccine Research Center, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health, Building 40, Room 4502, Mailstop Code MSC-3005, 40 Convent Drive, Bethesda, MD 20892, United States; Emory University School of Medicine, 1510 Clifton Road NE, Room 4035, Atlanta, GA 30322, United States

Source : Science Washington DC. 2007; 317 (5839) : 825-828

ISSN : 0036-8075

CODEN : SCIEAS

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Type de document : review

Notes : 1/4 p. ref. et notes dissem.

Résumé : Influenza virus entry is mediated by the receptor binding domain (RBD) of its spike, the hemagglutinin (HA). Adaptation of avian viruses to humans is associated with HA specificity for $\alpha 2,6$ - rather than $\alpha 2,3$ -linked sialic acid (SA) receptors. Here, we define mutations in influenza A subtype H5N1 (avian) HA that alter its specificity for SA either by decreasing $\alpha 2,3$ - or increasing $\alpha 2,6$ -SA recognition. RBD mutants were used to develop vaccines and monoclonal antibodies that neutralized new variants. Structure-based modification of HA specificity can guide the development of preemptive vaccines and therapeutic monoclonal antibodies that can be evaluated before the emergence of human-adapted H5N1 strains.

Code(s) de classement : 002A05C07

Descripteur(s) anglais

Descripteur(s) : Hemagglutinin; Mutation; Immunization; Vaccine; Monoclonal antibody; Avian influenza virus

Desc. génériques : Immunology; Pharmacology; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Hemagglutinine; Mutation; Immunisation; Vaccin; Anticorps monoclonal; Influenzavirus aviaire

Desc. génériques : Immunologie; Pharmacologie; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 6040, INIST No. 354000161545860280

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Evaluation du risque sanitaire pour l' homme lie a la presence de virus influenza aviaires hautement pathogenes de sous-type H5N1 ou d' un virus pandemique derive de ce sous-type dans divers effluents aqueux et eaux de surface. : sources probables d' emission du virus Influenza aviaire de sous-type H5N1 et cycle eventuel de dissemination vers le milieu naturel aquatique : exposition et risques pour la population generale et professionnelle

Titre : Evaluation du risque sanitaire pour l' homme lie a la presence de virus influenza aviaires hautement pathogenes de sous-type H5N1 ou d' un virus pandemique derive de ce sous-type dans divers effluents aqueux et eaux de surface. : sources probables d' emission du virus Influenza aviaire de sous-type H5N1 et cycle eventuel de dissemination vers le milieu naturel aquatique : exposition et risques pour la population generale et professionnelle

Auteur(s) : Agence Francaise de Securite Sanitaire de l' Environnement et du Travail AFSSET Maison Alfort, France

Source : 2007; 85 p.

Éditeur : AFSSET, Maisons-Alfort

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Book

Résumé : L' Agence francaise de securite sanitaire de l' environnement et du travail (AFSSET) et l' Agence francaise de securite sanitaire des aliments (AFSSA) ont ete saisies le 31 octobre 2005 par le Delege interministeriel a la lutte contre la grippe aviaire (DILGA) d' une demande d' evaluation des risques sanitaires lies a la presence dans l' eau destinee a la consommation humaine et dans divers effluents aqueux de virus influenza aviaires en situation d' epizootie ou dans le cas d' une pandemie humaine. A la lecture de cette saisine, les agences ont mene une expertise collective dans leur champ respectif. Ainsi, l' AFSSET a pris en charge l' evaluation de l' exposition potentielle des populations (generale et professionnelle) pouvant etre en contact avec des eaux usees et de surface. L' AFSSA a examine l' exposition potentielle des populations associee aux eaux destinees a la consommation humaine et a la toilette. Compte tenu de l' importance sanitaire du sujet, et malgre l' absence d' un Comite d' Experts Specialises dedie a la thematique des eaux, l' instruction de cette saisine dans un cadre collectif a ete confiee a un groupe de travail ad-hoc "Virus Influenza Aviaires Hautement Pathogenes - Eaux" sous la presidence de Madame Michele LEGEAS, Professeure chercheure, specialiste de l' analyse et de la gestion des situations a risques

Code(s) de classement : 002B30A11

Descripteur(s) anglais

Descripteur(s) : Risk; Prevention; Water; Contamination

Desc. génériques : Public health; Medical sciences

Descripteur(s) français

Descripteur(s) : Risque; Prevention; Eau; Contamination

Desc. génériques : Sante publique; Sciences medicales

Localisation : BDSP/MIN-SANTE, Shelf number ISO20015607

Origine de la notice : BDSP

Une pandémie grippale identique à celle de 1918-1920 est-elle concevable dans les années 2000 ?

Titre : Une pandémie grippale identique à celle de 1918-1920 est-elle concevable dans les années 2000 ?

Auteur(s) : LEGEAS Michele

Source : ENVIRONNEMENT RISQUES ET SANTE. 2007-06-18; 6 (4) : 271-278; fig., tabl.

ISSN : 1635-0421

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial

Nombre de références : 32 ref.

Résumé : L'ampleur de la préparation mondiale pour faire face à une éventuelle pandémie grippale dans les années à venir est pour partie due au souvenir de la grande pandémie de 1918. L'objectif de la présente étude est de modéliser le départ d'une épidémie avec un virus proche du VIA HP (H5N1) actuel, et de mettre en évidence d'éventuelles différences épidémiologiques, selon les contextes - passé et actuel. Il apparaît que si une épidémie se déclarait, elle serait probablement reconnue avant de déclencher une pandémie. Sur la base des données proposées dans la littérature, le nombre de cas attendus sur le début d'épidémie serait de l'ordre de 4000, dont 1000 décès en moins de 3 semaines. Cela paraît détectable par le système international de surveillance mis en place et sa réactivité. En l'état actuel des connaissances, une pandémie grippale majeure semble donc assez faiblement probable, sauf si son départ devait avoir lieu dans des contextes de situations sanitaires déjà dégradées, rendant plus difficile la notification des cas. Si cela devait se produire, les tranches d'âge les plus touchées pourraient être celles d'un deuxième âge élargi (10 à 50 ans), correspondant largement aux actifs, et plutôt les femmes que les hommes. Si ces hypothèses se révélaient exactes, elles pourraient compliquer certains aspects des plans de préparation à cette pandémie.

Code(s) de classement : 002B30A01

Descripteur(s) anglais

Descripteur(s) : Epidemic; Epidemiology; Influenza; Comparative study; Sanitary surveillance; Prospective; World; Risk management

Desc. génériques : Public health; Medical sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Epidémie; Épidémiologie; Grippe; Étude comparative; Surveillance sanitaire; Prospective; Monde; Gestion risque

Desc. génériques : Santé publique; Sciences médicales; Virose; Infection

Localisation : BDSP/ENSP, Shelf number 162112

Origine de la notice : BDSP

La preparation du systeme de sante aux menaces sanitaires de grande ampleur

Titre : La preparation du systeme de sante aux menaces sanitaires de grande ampleur

Auteur(s) : RENARD Stephanie

Source : BULLETIN JURIDIQUE DE LA SANTE PUBLIQUE. 2007-07; (105) : 10-12

ISSN : 1276-2997

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial

Nombre de références : 2 ref.

Résumé : Sous la pression du SRAS, de la grippe aviaire, de la dengue ou du chikungunya, également soucieux de protéger la population contre les risques de masse portés par les nouvelles technologies, la mondialisation des échanges et les bouleversements climatiques, les pouvoirs publics français se sont engagés dans une réforme d'envergure du système de défense sanitaire. Amorcée par la loi du 9 août 2004 relative à la politique de santé publique, cette réforme a trouvé son dernier développement dans celle du 5 mars 2007 relative à la préparation du système de santé à des menaces sanitaires de grande ampleur

Code(s) de classement : 002B30A01

Descripteur(s) anglais

Descripteur(s) : Health system; Evolution; Regulation; Organization; Epidemiology; Sanitary surveillance; Responsibility; France; Risk management

Desc. génériques : Public health; Medical sciences; Europe

Descripteur(s) français

Descripteur(s) : Systeme sante; Evolution; Reglementation; Organisation; Epidemiologie; Surveillance sanitaire; Responsabilite; France; Gestion risque

Desc. génériques : Sante publique; Sciences medicales; Europe

Localisation : BDSP/ENSP, Shelf number 161516

Origine de la notice : BDSP

Direct ex vivo analyses of HLA-DR1 transgenic mice reveal an exceptionally broad pattern of immunodominance in the primary HLA-DR1-restricted CD4 T-cell response to influenza virus hemagglutinin

Titre : Direct ex vivo analyses of HLA-DR1 transgenic mice reveal an exceptionally broad pattern of immunodominance in the primary HLA-DR1-restricted CD4 T-cell response to influenza virus hemagglutinin

Auteur(s) : RICHARDS Katherine A; CHAVES Francisco A; KRAFCIK Frederick R; TOPHAM David J; LAZARSKI Christopher A; SANT Andrea J

Affiliation(s) : David H. Smith Center for Vaccine Biology and Immunology, Aab Institute, and Department of Microbiology and Immunology, University of Rochester, Rochester, New York 14642, United States

Source : Journal of virology. 2007; 81 (14) : 7608-7619

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 114 ref.

Résumé : The recent threat of an avian influenza pandemic has generated significant interest in enhancing our understanding of the events that dictate protective immunity to influenza and in generating vaccines that can induce heterosubtypic immunity. Although antigen-specific CD4 T cells are known to play a key role in protective immunity to influenza through the provision of help to B cells and CD8 T cells, little is known about the specificity and diversity of CD4 T cells elicited after infection, particularly those elicited in humans. In this study, we used HLA-DR transgenic mice to directly and comprehensively identify the specificities of hemagglutinin (HA)-specific CD4 T cells restricted to a human class II molecule that were elicited following intranasal infection with a strain of influenza virus that has been endemic in U.S. human populations for the last decade. Our results reveal a surprising degree of diversity among influenza virus-specific CD4 T cells. As many as 30 different peptides, spanning the entire HA protein, were recognized by CD4 T cells, including epitopes genetically conserved among H1, H2, and H5 influenza A viruses. We also compared three widely used major histocompatibility class II algorithms to predict HLA-DR binding peptides and found these as yet inadequate for identifying influenza virus-derived epitopes. The results of these studies offer key insights into the spectrum of peptides recognized by HLA-DR-restricted CD4 T cells that may be the focus of immune responses to infection or to experimental or clinical vaccines in humans.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Transgenic animal; Mouse; Influenzavirus; HLA System; Immunodominance; Histocompatibility restriction; T Lymphocyte; Cellular immunity; Hemagglutinin; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Rodentia; Mammalia; Vertebrata; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Animal transgénique; Souris; Influenzavirus; Systeme HLA; Immunodominance; Restriction histocompatibilité; Lymphocyte T; Immunité cellulaire; Hemagglutinine; Virologie; Antigène CD4

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Rodentia; Mammalia; Vertebrata; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000162385790250

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Characterization of low-pathogenic H5 subtype influenza viruses from eurasia : Implications for the origin of highly pathogenic H5N1 viruses

Titre : Characterization of low-pathogenic H5 subtype influenza viruses from eurasia : Implications for the origin of highly pathogenic H5N1 viruses

Auteur(s) : DUAN L; CAMPITELLI L; FAN X H; LEUNG Y H C; VIJAYKRISHNA D; ZHANG J X; DONATELLI I; DELOGU M; LI K S; FONT E; CHIAPPONI C; WU W L; KAI H; WEBSTER R G; SHORTRIDGE K F; PEIRIS J S M; SMITH Gavin J D; CHEN H; GUAN Y

Affiliation(s) : State Key Laboratory of Emerging Infectious Diseases, Department of Microbiology, The University of Hong Kong, Faculty of Medicine Building 21 Sassoon Road, Pokfulam, Hong Kong; International Institute of Infection and Immunity, Shantou University, Shantou, Guangdong 515031, China; Department of Infectious, Parasitic and Immune-Mediated Diseases, Istituto Superiore di Sanita, Viale Regina Elena 299, Rome, Italy; Department of Public Health and Animal Pathology, Faculty of Veterinary Medicine, University of Bologna, Ozzano Emilia (BO), Italy; Istituto Zooprofilattico Sperimentale of Lombardia and Emilia, Parma, Italy; Virology Division, Department of Infectious Diseases, St. Jude Children's Research Hospital, Memphis, Tennessee 38015, United States

Source : Journal of virology. 2007; 81 (14) : 7529-7539

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 50 ref.

Résumé : Highly pathogenic avian influenza (HPAI) H5N1 viruses are now endemic in many Asian countries, resulting in repeated outbreaks in poultry and increased cases of human infection. The immediate precursor of these HPAI viruses is believed to be A/goose/Guangdong/1/96 (Gs/GD)-like H5N1 HPAI viruses first detected in Guangdong, China, in 1996. From 2000 onwards, many novel reassortant H5N1 influenza viruses or genotypes have emerged in southern China. However, precursors of the Gs/GD-like viruses and their subsequent reassortants have not been fully determined. Here we characterize low-pathogenic avian influenza (LPAI) H5 subtype viruses isolated from poultry and migratory birds in southern China and Europe from the 1970s to the 2000s. Phylogenetic analyses revealed that Gs/GD-like virus was likely derived from an LPAI H5 virus in migratory birds. However, its variants arose from multiple reassortments between Gs/GD-like virus and viruses from migratory birds or with those Eurasian viruses isolated in the 1970s. It is of note that unlike HPAI H5N1 viruses, those recent LPAI H5 viruses have not become established in aquatic or terrestrial poultry. Phylogenetic analyses revealed the dynamic nature of the influenza virus gene pool in Eurasia with repeated transmissions between the eastern and western extremities of the continent. The data also show reassortment between influenza viruses from domestic and migratory birds in this region that has contributed to the expanded diversity of the influenza virus gene pool among poultry in Eurasia.

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Pathogenicity; Subtype; Influenza; Eurasia; Origin; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Pouvoir pathogène; Soustype; Grippe; Eurasie; Origine; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Virose; Infection

Localisation : INIST, Shelf number 13592, INIST No. 354000162385790180

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Neuraminidase inhibitor resistance in influenza viruses

Titre : Neuraminidase inhibitor resistance in influenza viruses

Auteur(s) : REECE Phillip Andrew

Affiliation(s) : Department of Pharmacology, University of Melbourne, Parkville, VIC, Australia

Source : Journal of medical virology. 2007; 79 (10) : 1577-1586

ISSN : 0146-6615

CODEN : JMVIDB

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 3 p.1/4

Résumé : Zanamivir and oseltamivir, the currently marketed influenza virus neuraminidase inhibitors (NAIs), are prescribed for the treatment and prophylaxis of influenza and are being stockpiled for pandemic influenza. Oseltamivir resistance has been reported in up to 2% of patients in clinical trials of oseltamivir and in up to 18% of treated children. There are also reports in at least three patients treated with oseltamivir for influenza A (H5N1) infections. At this stage, there are no reports of resistance occurring to zanamivir in immunocompetent patients. Zanamivir and oseltamivir bind differently at the neuraminidase catalytic site and this contributes to different drug resistance profiles. The magnitude and duration of NAI concentrations at the site of infection are also expected to be important factors and are determined by route and timing of drug administration, dose, and pharmacokinetic differences between patients. In addition, the type, strain, and virulence of the influenza strain and the nature of the immune response all appear to play a role in determining the likelihood of drug resistance arising. The clinical significance of a particular NAI-resistant isolate from a patient is often not clear but virus viability and transmissibility are clearly important characteristics. Early initiation of NAI treatment in suspected cases of influenza is important for maximizing efficacy and minimizing the risk of drug resistance. Higher NAI doses and longer periods of treatment may be required for patients with influenza A (H5N1) infections but furtherwork is needed in this area.

Code(s) de classement : 002A05C10; 002B05C02J

Descripteur(s) anglais

Descripteur(s) : Aves; Neuraminidase inhibitor; Resistance; Influenza; Peramivir; Zanamivir; Oseltamivir; Antiviral

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Infectious diseases; Medical sciences; Vertebrata; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Aves; Inhibiteur neuraminidase; Resistance; Grippe; Peramivir; Zanamivir; Oseltamivir; Antiviral

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Maladies infectieuses; Sciences médicales; Vertebrata; Virose; Infection

Localisation : INIST, Shelf number 17422, INIST No. 354000161577120190

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Differential polymerase activity in avian and mammalian cells determines host range of influenza virus

Titre : Differential polymerase activity in avian and mammalian cells determines host range of influenza virus

Auteur(s) : GABRIEL G; ABRAM M; KEINER B; WAGNER R; KLENK H D; STECH J

Affiliation(s) : Institut fuer Virologie, Philipps-Universitat Marburg, Hans-Meerwein-Str. 2, 35043 Marburg, Germany

Source : Journal of virology. 2007; 81 (17) : 9601-9604

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 27 ref.

Résumé : As recently shown, mutations in the polymerase genes causing increased polymerase activity in mammalian cells are responsible for the adaptation of the highly pathogenic avian influenza virus SC35 (H7N7) to mice (G. Gabriel et al., Proc. Natl. Acad. Sci. USA 102:18590-18595, 2005). We have now compared mRNA, cRNA, and viral RNA levels of SC35 and its mouse-adapted variant SC35M in avian and mammalian cells. The increase in levels of transcription and replication of SC35M in mammalian cells was linked to a decrease in avian cells. Thus, the efficiency of the viral polymerase is a determinant of both host specificity and pathogenicity.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Aves; Mammalia; Influenzavirus; In vitro; Host range; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Vertebrata; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Aves; Mammalia; Influenzavirus; In vitro; Spectre hôte; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Vertebrata; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000161575220780

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

A new generation of modified live-attenuated avian influenza viruses using a two-strategy combination as potential vaccine candidates

Titre : A new generation of modified live-attenuated avian influenza viruses using a two-strategy combination as potential vaccine candidates

Auteur(s) : HAICHEN SONG; RAMIREZ Gloria NIETO; PEREZ Daniel R

Affiliation(s) : Department of Veterinary Medicine, University of Maryland, College Park, Virginia-Maryland Regional College of Veterinary Medicine, 8075 Greenmead Drive, College Park, Maryland 20742-3711, United States; Facultad de Medicina Veterinaria y Zootecnia, Universidad Nacional de Colombia, Bogota, Colombia

Source : Journal of virology. 2007; 81 (17) : 9238-9248

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 48 ref.

Résumé : In light of the recurrent outbreaks of low pathogenic avian influenza (LPAI) and highly pathogenic avian influenza (HPAI), there is a pressing need for the development of vaccines that allow rapid mass vaccination. In this study, we introduced by reverse genetics temperature-sensitive mutations in the PB1 and PB2 genes of an avian influenza virus, A/Guinea Fowl/Hong Kong/WF10/99 (H9N2) (WF10). Further genetic modifications were introduced into the PB1 gene to enhance the attenuated (att) phenotype of the virus in vivo. Using the att WF10 as a backbone, we substituted neuraminidase (NA) for hemagglutinin (HA) for vaccine purposes. In chickens, a vaccination scheme consisting of a single dose of an att H7N2 vaccine virus at 2 weeks of age and subsequent challenge with the wild-type H7N2 LPAI virus resulted in complete protection. We further extended our vaccination strategy against the HPAI H5N1. In this case, we reconstituted an att H5N1 vaccine virus, whose HA and NA genes were derived from an Asian H5N1 virus. A single-dose immunization in ovo with the att H5N1 vaccine virus in 18-day-old chicken embryos resulted in more than 60% protection for 4-week-old chickens and 100% protection for 9- to 12-week-old chickens. Boosting at 2 weeks posthatching provided 100% protection against challenge with the HPAI H5N1 virus for chickens as young as 4 weeks old, with undetectable virus shedding postchallenge. Our results highlight the potential of live att avian influenza vaccines for mass vaccination in poultry.

Code(s) de classement : 002A05C10; 002A05C07

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Attenuated strain; Vaccine; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Immunology; Pharmacology; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Souche atténuee; Vaccin; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Immunologie; Pharmacologie; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus

Localisation : INIST, Shelf number 13592, INIST No. 354000161575220360

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Antimicrobial resistance prevention initiative-An update : Proceedings of an expert panel on resistance

Titre : Antimicrobial resistance prevention initiative-An update : Proceedings of an expert panel on resistance

Auteur(s) : MOELLERING Robert C JR; GRAYBILL John R; MCGOWAN John E JR; COREY Lawrence

Affiliation(s) : Department of Medicine, Beth Israel Deaconess Medical Center, Boston, Massachusetts, United States; Department of Medicine, University of Texas Health Science Center at San Antonio, San Antonio, Texas, United States; Department of Epidemiology, Rollins School of Public Health of Emory University, Atlanta, Georgia, United States; Program in Infectious Diseases Fred Hutchinson Cancer Research Center, Seattle, Washington, United States; Department of Medicine and Laboratory Medicine and Virology Division, University of Washington School of Medicine, Seattle, Washington, United States

Source : The American journal of medicine. 2007; 120 (7) : S4-S25

ISSN : 0002-9343

CODEN : AJMEAZ

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 228 ref.

Résumé : Antimicrobial resistance is a growing problem that complicates the treatment of important nosocomial and community-acquired infections. It is a worldwide problem that spans the range of human pathogens, including bacteria, fungi, and viruses. This update from the Antimicrobial Resistance Prevention Initiative (ARPI) provides a review of some important trends in antibiotic, antifungal, and antiviral resistance. Areas of focus include multidrug-resistant bacteria in the hospital setting; the growing problem of community-acquired methicillin-resistant *Staphylococcus aureus*; triazole and polyene resistance in nosocomial infections caused by non-*Candida albicans* or *Aspergillus* species, and the utility of in vitro susceptibility testing for these fungal infections; antiviral resistance in <alpha>- or <beta>-herpesviruses causing genital herpes or cytomegalovirus infection in immunocompromised hosts; and concerns about a possible pandemic involving avian influenza A and the importance of minimizing emergence of resistant strains of this highly pathogenic virus. The challenges in each area are different, but the general keys to addressing the growing problem of antimicrobial resistance continue to be responsible antimicrobial stewardship and the development of newer antimicrobial agents.

Code(s) de classement : 002B01; 002B30A03

Descripteur(s) anglais

Descripteur(s) : Antimicrobial agent; Drug susceptibility test; Prevention; Proceedings; Expert; Resistance; Medicine

Desc. génériques : Medical sciences; Public health; Medical sciences

Descripteur(s) français

Descripteur(s) : Antimicrobien; Test sensibilité médicamenteuse; Prévention; Actes congrès; Expert; Résistance; Médecine

Desc. génériques : Sciences médicales; Santé publique; Sciences médicales

Localisation : INIST, Shelf number 4562, INIST No. 354000161684120190

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Genetic analysis of influenza A virus (H5N1) derived from domestic cat and dog in Thailand

Titre : Genetic analysis of influenza A virus (H5N1) derived from domestic cat and dog in Thailand

Auteur(s) : AMONSIN A; SONGSERM T; CHUTINIMITKUL S; JAM ON R; SAE HENG N; PARIYOTHORN N; PAYUNGPORN S; THEAMBOONLERS A; POOVORAWAN Y

Affiliation(s) : Faculty of Veterinary Science, Chulalongkorn University, Pathumwan, Bangkok, Thailand; Faculty of Veterinary Science, Kasetsart University, Kumphaengsaen Campus, Nakom Pathom, Thailand; Faculty of Medicine, Chulalongkorn University, Pathumwan, Bangkok, Thailand

Source : Archives of virology. 2007; 152 (10) : 1925-1933

ISSN : 0304-8608

Date de publication : 2007

Pays de publication : Austria

Langue(s) : English

Type de document : Serial

Type de document : short-communication

Nombre de références : 20 ref.

Résumé : Complete genome sequences of H5N1 viruses derived from a domestic cat "A/Cat/Thailand/ KU-02/04" and dog "A/Dog/Thailand/KU-08/04" were comprehensively analyzed and compared with H5N1 isolates obtained during the 2004 and 2005 outbreaks. Phylogenetic analysis of both cat and dog viruses revealed that they are closely related to the H5N1 viruses recovered from avian influenza outbreaks of the same period. Genetic analysis of 8 viral gene segments showed some evidence of virulence in mammalian species. In summary, the H5N1 viruses that infected a domestic cat and dog are highly pathogenic avian influenza viruses that are virulent in mammalian species, potentially indicating transmission of H5N1 viruses from domestic animals to humans.

Code(s) de classement : 002A05C10; 002A05C05

Descripteur(s) anglais

Descripteur(s) : Influenza A virus; Dog; Genetics; Thailand

Desc. génériques : Virology; Microbiology; Biological sciences; Genetics; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Fissipedia; Carnivora; Mammalia; Vertebrata; Asia; Veterinary

Descripteur(s) français

Descripteur(s) : Virus grippal A; Chien; Genetique; Thaïlande

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Genetique; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Fissipedia; Carnivora; Mammalia; Vertebrata; Asie; Veterinaire

Localisation : INIST, Shelf number 6355, INIST No. 354000143482630150

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Using RRT-PCR analysis and virus isolation to determine the prevalence of avian influenza virus infections in ducks at Minto Flats state game Refuge, Alaska, during August 2005

Titre : Using RRT-PCR analysis and virus isolation to determine the prevalence of avian influenza virus infections in ducks at Minto Flats state game Refuge, Alaska, during August 2005

Auteur(s) : RUNSTADLER J A; HAPP G M; SLEMONS R D; SHENG Z M; GUNDLACH N; PETRULA M; SENNE D; NOLTING J; EVERS D L; MODRELL A; HUSON H; HILLS S; ROTHE T; MARR T; TAUBENBERGER J K

Affiliation(s) : Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska, United States; Department of Veterinary Preventive Medicine, Ohio State University, Columbus, Ohio, United States; Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland, United States; Division of Wildlife Conservation, Alaska Department of Fish and Game, Anchorage, Alaska, United States; National Veterinary Services Laboratory, Animal Plant Health Inspection Service, United States Department of Agriculture, Ames, Iowa, United States

Source : Archives of virology. 2007; 152 (10) : 1901-1910

ISSN : 0304-8608

Date de publication : 2007

Pays de publication : Austria

Langue(s) : English

Type de document : Serial

Nombre de références : 41 ref.

Résumé : This study describes surveillance for avian influenza viruses (AIV) in the Minto Flats State Game Refuge, high-density waterfowl breeding grounds in Alaska. Five hundred paired cloacal samples from dabbling ducks (Northern Pintail, Mallard, Green Wing Teal, and Widgeon) were placed into ethanol and viral transport medium (VTM). Additional ethanol-preserved samples were taken. Of the ethanol-preserved samples, 25.6% were AIV RNA-positive by real-time RT-PCR. The hemagglutinin (HA) and neuraminidase (NA) subtypes were determined for 38 of the first-passage isolates, and four first-passage isolates could not be definitively sub-typed. Five influenza A virus HA-NA combinations were identified: H3N6, H3N8, H4N6, H8N4, and H12N5. Differences in the prevalence of AIV infections by sex and by age classes of Northern Pintail and Mallard ducks were detected, but the significance of these differences is undefined. In the 500 paired samples, molecular screening detected positive birds at a higher rate than viral isolation ($X^2 = 8.35$, $p = 0.0035$, $df = 1$); however, 20 AIV isolates were recovered from PCR-negative ducks. Further research is warranted to compare the two screening protocols' potential for estimating true prevalence in wild birds. Our success during 2005 indicates Minto Flats will be a valuable study site for a longitudinal research project designed to gain further insight into the natural history, evolution, and ecology of AIV in wild birds.

Code(s) de classement : 002A05C10; 002A05C06

Descripteur(s) anglais

Descripteur(s) : Virus; Avian influenzavirus; Polymerase chain reaction; Isolation; Prevalence; Epidemiology; Alaska
Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; United States; North America; America; Zoopathogen

Descripteur(s) français

Descripteur(s) : Virus; Influenzavirus aviaire; Reaction chaine polymerase; Isolement; Prevalence; Epidemiologie; Alaska

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Etats Unis; Amerique du Nord; Amerique; Zoopathogene

Localisation : INIST, Shelf number 6355, INIST No. 354000143482630120

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Estimates of the reproduction numbers of Spanish influenza using morbidity data

Titre : Estimates of the reproduction numbers of Spanish influenza using morbidity data

Auteur(s) : VYNNYCKY Emilia; TRINDAFLL Amy; MANGTANI Punam

Affiliation(s) : Modelling and Economics Unit, Health Protection Agency Centre for Infections, 61 Colindale Avenue, Colindale, London, NW9 5HT, United Kingdom; Public Health Directorate, West Essex Primary Care Trust, 16th Floor, Terminus House, Terminus Street, West Essex, CM20 IEX, United Kingdom; Infectious Disease Epidemiology Unit, Department of Infectious and Tropical Diseases, Keppel Street, London, WC1E 7HT, United Kingdom

Source : International journal of epidemiology. 2007; 36 (4) : 881-889

ISSN : 0300-5771

CODEN : IJEPBF

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 30 ref.

Résumé : Background There have been several studies of the transmissibility of the 1918 (Spanish) influenza virus, which has attributed to >20 million deaths. Many of the analyses to date have involved fitting predictions from a transmission model to the observed epidemic curves from different settings. Methods Using morbidity data from cities in Europe and America and from confined settings during the 1918 influenza pandemic, we contrast the use of several different methods based on the growth rate and final size of the epidemic, which do not rely on transmission models, to estimate the effective and basic reproduction numbers. Results The effective reproduction number (the average number of secondary infectious cases produced by a typical infectious case in a given population) for the 1918 influenza virus was in the range 1.2-3.0 and 2.1-7.5 for community-based and confined settings, respectively. Conclusions Assuming further that 30 and 50% of individuals were immune to Spanish influenza after the wave in April 1918 and the first subsequent wave, respectively, these findings imply that, in a totally susceptible population, an infectious case could have led to 2.4-4.3 and 2.6-10.6 cases in community-based and confined settings, respectively. These findings for community-based populations confirm the relatively low transmissibility of the 1918 (Spanish) influenza virus, which has been found by other studies using alternative data sources and methods.

Code(s) de classement : 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Influenza; Epidemiology; Europe; United States; Growth rate; Modeling; Human

Desc. génériques : ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Viral disease; Infection; North America; America; Public health

Descripteur(s) français

Descripteur(s) : Grippe; Epidemiologie; Europe; Etats Unis; Taux croissance; Modelisation; Homme; Grippe espagnole

Desc. génériques : ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences medicales; Virose; Infection; Amerique du Nord; Amerique; Sante publique

Localisation : INIST, Shelf number 16214, INIST No. 354000161650610210

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Large-scale spatial-transmission models of infectious disease

Titre : Large-scale spatial-transmission models of infectious disease

Auteur(s) : RILEY Steven

Affiliation(s) : Department of Community Medicine and School of Public Health, Faculty of Medicine, University of Hong Kong, Hong Kong

Source : Science Washington DC. 2007; 316 (5829) : 1298-1301

ISSN : 0036-8075

CODEN : SCIEAS

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 40 ref.

Résumé : During transmission of seasonal endemic diseases such as measles and influenza, spatial waves of infection have been observed between large distant populations. Also, during the initial stages of an outbreak of a new or reemerging pathogen, disease incidence tends to occur in spatial clusters, which makes containment possible if you can predict the subsequent spread of disease. Spatial models are being used with increasing frequency to help characterize these large-scale patterns and to evaluate the impact of interventions. Here, I review several recent studies on four diseases that show the benefits of different methodologies: measles (patch models), foot-and-mouth disease (distance-transmission models), pandemic influenza (multigroup models), and smallpox (network models). This review highlights the importance of the household in spatial studies of human diseases, such as smallpox and influenza. It also demonstrates the need to develop a simple model of household demographics, so that these large-scale models can be extended to the investigation of long-time scale human pathogens, such as tuberculosis and HIV.

Code(s) de classement : 002B05

Descripteur(s) anglais

Descripteur(s) : Infection; Statistical analysis; Transmission; Models; Transmission from man to man; Seasonal variation; Human; Epidemiology

Desc. génériques : Infectious diseases; Medical sciences

Descripteur(s) français

Descripteur(s) : Infection; Analyse statistique; Transmission; Modele; Transmission homme homme; Variation saisonniere; Homme; Epidemiologie

Desc. génériques : Maladies infectieuses; Sciences medicales

Localisation : INIST, Shelf number 6040, INIST No. 354000162844090130

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Effective small interfering RNAs targeting matrix and nucleocapsid protein gene inhibit influenza A virus replication in cells and mice

Titre : Effective small interfering RNAs targeting matrix and nucleocapsid protein gene inhibit influenza A virus replication in cells and mice

Auteur(s) : HONGBO ZHOU; MEILIN JIN; ZHENGJUN YU; XIAOJUAN XU; YAPING PENG; HAIYA WU; JINLIN LIU; HU LIU; SHENGBO CAO; HUANCHUN CHEN

Affiliation(s) : National Key Laboratory of Agricultural Microbiology, Huazhong Agricultural University, Wuhan 430070, China; Laboratory of Animal Virology, College of Veterinary Medicine, Huazhong Agricultural University, Wuhan 430070, China

Source : Antiviral research. 2007; 76 (2) : 186-193

ISSN : 0166-3542

CODEN : ARSRDR

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 1/4 p.

Résumé : RNA interference (RNAi) is a powerful tool to silence gene expression. Small interfering RNA (siRNA)-induced RNA degradation has been recently used as an antiviral agent to inhibit specific virus replication. Here, we showed that several siRNAs specific for conserved regions of influenza virus matrix (M2) and nucleocapsid protein (NP) genes could effectively inhibit expression of the corresponding viral protein. We also evaluated the antiviral potential of these siRNAs targeting M2 and NP of H5N1 avian influenza virus (AIV), which are essential to viral replication. We investigated the inhibitory effect of M2-specific siRNAs and NP-specific siRNAs on influenza A virus (H5N1, H1N1 and H9N2) replication in Madin-Darby canine kidney (MDCK) cells and BALB/c mice. The results showed that treatment with these siRNAs could specifically inhibit influenza A virus replication in MDCK cells (0.51-1.63 TCID₅₀ reduction in virus titers), and delivery of pS-M48 and pS-NP1383 significantly reduced lung virus titers in the infected mice (16-50-fold reduction in lung virus titers) and partially protected the mice from lethal influenza virus challenge (a survival rate of 4/8 for H1N1 virus-infected mice and 2/8 for H5N1 virus infected mice). Moreover, the treatment of pS-M48 and pS-NP1383 could suppress replication of different subtypes of influenza A viruses, including a H5N1 highly pathogenic avian isolate strain. The results provided a basis for further development of siRNA for prophylaxis and therapy of influenza virus infection in humans and animals.

Code(s) de classement : 002B02S05

Descripteur(s) anglais

Descripteur(s) : Gene silencing; Small Interference RNA; Target; Targeting; Coat protein; Nucleocapsid; Protein; Gene; Influenza A virus; Replication; In vitro; Animal; Mouse; Influenzavirus; Antiviral; Mechanism of action; In vivo; RNA interference

Desc. génériques : Virology; Infectious diseases; Pharmacology; Medical sciences; Influenzavirus A; Orthomyxoviridae; Virus; Rodentia; Mammalia; Vertebrata; Genetics

Descripteur(s) français

Descripteur(s) : Silence expression génique; siRNA; Cible; Ciblage; Proteine enveloppe; Nucleocapside; Proteine; Gene; Virus grippal A; Replication; In vitro; Animal; Souris; Influenzavirus; Antiviral; Mécanisme action; In vivo; Interférence ARN

Desc. génériques : Virologie; Maladies infectieuses; Pharmacologie; Sciences médicales; Influenzavirus A; Orthomyxoviridae; Virus; Rodentia; Mammalia; Vertebrata; Génétique

Localisation : INIST, Shelf number 18839, INIST No. 354000149806930110

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

A survey of the preparedness for an influenza pandemic of general practitioners in the West Midlands, UK

Titre : A survey of the preparedness for an influenza pandemic of general practitioners in the West Midlands, UK

Auteur(s) : BEAUMONT M; DUGGAL H V; MAHMOOD H; OLOWOKURE B

Affiliation(s) : Shropshire and Staffordshire Health Protection Unit, Mellor House, Corporation Street, Stafford ST16 3SR, United Kingdom; Regional Surveillance Unit (West Midlands), Health Protection Agency, 9th Floor Ladywood House, 45 Stephenson Street, Birmingham B2 4DY, United Kingdom; Health Protection Research and Development Unit, Department of Public Health and Epidemiology, University of Birmingham, Birmingham B15 2TT, United Kingdom

Source : European journal of clinical microbiology and infectious diseases Print. 2007; 26 (11) : 819-823

ISSN : 0934-9723

Date de publication : 2007

Pays de publication : Germany

Langue(s) : English

Type de document : Serial

Nombre de références : 15 ref.

Résumé : There is a lack of evidence regarding the preparedness of general practitioners (GPs) to respond to pandemic influenza. A postal questionnaire survey was conducted to explore the self-perceived pandemic preparedness of GPs in the West Midlands, United Kingdom, and to determine differences between urban and non-urban GPs. The postal questionnaire was sent out to 773 GPs in November 2005, and a reminder was sent in January 2006. In all, 427/773 (55%) questionnaires were returned, and 56% of respondents were aware of influenza pandemic preparedness plans. Approximately one-quarter of respondents (28%, 114/401) thought the response of their practice to a pandemic event would be very poor/poor. Non-urban GPs were significantly more likely to rate the response of their practice to a pandemic as likely to be poor (OR 3.01, 95%CI 1.03-8.76) and were less likely to be aware of pandemic preparedness plans (OR 0.62, 95%CI 0.39-0.99). Non-urban GPs were also significantly more likely to feel less confident in their ability to explain to their patients what to do and why during an influenza pandemic than GPs based in urban areas (OR 4.68, 95%CI 1.78-12.31). GPs rating of the odds of a pandemic affecting the United Kingdom did not differ significantly by geographic location. The results of this paper can be used to inform and influence public health policy and as evidence of a need to provide additional education and training to improve pandemic preparedness among GPs, in particular those in non-urban areas.

Code(s) de classement : 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Influenza; Survey; General practitioner; United Kingdom; Human; Urban environment

Desc. génériques : ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Viral disease; Infection; Europe

Descripteur(s) français

Descripteur(s) : Grippe; Enquete; Medecin generaliste; Royaume Uni; Homme; Milieu urbain; Pandemie

Desc. génériques : ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences medicales; Virose; Infection; Europe

Localisation : INIST, Shelf number 19903, INIST No. 354000161683620090

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Influenza aviaire et oiseaux migrateurs

Titre : Influenza aviaire et oiseaux migrateurs

Auteur(s) : MOUTOU Francois

Source : Alauda Dijon. 2007; 75 (3) : 301-308

Informations congrès : *'French' Ornithology Symposium, *30, *Paris France, *2006-12-02

ISSN : 0002-4619

CODEN : ALUDAI

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Nombre de références : 1/4 p.

Code(s) de classement : 002A14B02C2C; 002A15D

Descripteur(s) anglais

Descripteur(s) : Migratory; Aves

Desc. génériques : Autoecology; Ecology; Biological sciences; Vertebrates zoology; Biological sciences; Vertebrata

Descripteur(s) français

Descripteur(s) : Migrateur; Aves

Desc. génériques : Autoecologie; Ecologie; Sciences biologiques; Zoologie des vertebres; Sciences biologiques; Vertebrata

Localisation : INIST, Shelf number 5316, INIST No. 354000160922160120

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Computational analysis of proteome of H5N1 avian influenza vims to define T cell epitopes with vaccine potential

Titre : Computational analysis of proteome of H5N1 avian influenza vims to define T cell epitopes with vaccine potential

Auteur(s) : PARIDA R; SHAILA M S; MUKHERJEE S; CHANDRA N R; NAYAK R

Affiliation(s) : Department of Microbiology and Cell Biology, Indian Institute of Science, Bangalore 560012, India; Bioinformatics Centre, Indian Institute of Science, Bangalore 560012, India

Source : Vaccine . 2007; 25 (43) : 7530-7539

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 33 ref.

Résumé : The existing vaccines against influenza are based on the generation of neutralizing antibody primarily directed against surface proteins-hemagglutinin and neuraminidase. In this work, we have computationally defined conserved T cell epitopes of proteins of influenza virus H5N1 to help in the design of a vaccine with haplotype specificity for a target population. The peptides from the proteome of H5N1 virus which are predicted to bind to different HLAs, do not show similarity with peptides of human proteome and are also identified to be generated by proteolytic cleavage. These peptides could be made use of in the design of either a DNA vaccine or a subunit vaccine against influenza.

Code(s) de classement : 002A02D10; 002A05F04

Descripteur(s) anglais

Descripteur(s) : Proteome; T Lymphocyte; Antigenic determinant; Vaccine; Avian influenza

Desc. génériques : Proteins; Biochemistry; Biological sciences; Applied microbiology; Microbiology; Biological sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Proteome; Lymphocyte T; Determinant antigenique; Vaccin; Grippe aviaire

Desc. génériques : Protéines; Biochimie; Sciences biologiques; Microbiologie appliquée; Microbiologie; Sciences biologiques; Infection; Virose

Localisation : INIST, Shelf number 20289, INIST No. 354000162017180070

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Development and validation of a liquid chromatographic-tandem mass spectrometric method for determination of oseltamivir and its metabolite oseltamivir carboxylate in plasma, saliva and urine

Titre : Development and validation of a liquid chromatographic-tandem mass spectrometric method for determination of oseltamivir and its metabolite oseltamivir carboxylate in plasma, saliva and urine

Auteur(s) : LINDEGARDH N; HANPITHAKPONG W; WATTANAGOON Y; SINGHASIVANON P; WHITE N J; DAY N P J

Affiliation(s) : Faculty of Tropical Medicine, Mahidol University, Bangkok 10400, Thailand; Nuffield Department of Clinical Medicine, Centre for Tropical Medicine, University of Oxford, Oxford, United Kingdom

Source : Journal of chromatography B. 2007; 859 (1) : 74-83

ISSN : 1570-0232

Date de publication : 2007

Pays de publication : Netherlands

Langue(s) : English

Type de document : Serial

Nombre de références : 13 ref.

Résumé : A bioanalytical method for the analysis of oseltamivir (OP) and its metabolite oseltamivir carboxylate (OC) in human plasma, saliva and urine using off-line solid-phase extraction and liquid chromatography coupled to positive tandem mass spectroscopy has been developed and validated. OP and OC were analysed on a ZIC-HILIC column (50 mm x 2.1 mm) using a mobile phase gradient containing acetonitrile-ammonium acetate buffer (pH 3.5; 10 mM) at a flow rate of 500 μ L/min. The method was validated according to published FDA guidelines and showed excellent performance. The lower limit of quantification for OP was determined to be 1,1 and 5 ng/mL for plasma, saliva and urine, respectively and for OC was 10, 10 and 30 ng/mL for plasma, saliva and urine, respectively. The upper limit of quantification for OP was determined to be 600, 300 and 1500 ng/mL for plasma, saliva and urine, respectively and for OC was 10,000, 10,000 and 30,000 ng/mL for plasma, saliva and urine, respectively. The within-day and between-day precisions expressed as R.S.D., were lower than 5% at all tested concentrations for all matrices and below 12% at the lower limit of quantification. Validation of over-curve samples ensured that it would be possible with dilution if samples went outside the calibration range. Matrix effects were thoroughly evaluated both graphically and quantitatively. No matrix effects were detected for OP or OC in plasma or saliva. Residues from the urine matrix (most likely salts) caused some ion suppression for both OP and its deuterated internal standard but had no effect on OC or its deuterated internal standard. The suppression did not affect the quantification of OP.

Code(s) de classement : 002B02A02; 002A02

Descripteur(s) anglais

Descripteur(s) : Development; Validation; Quantitative analysis; Determination; Oseltamivir; Metabolite; Carboxylate; Biological fluid; Blood plasma; Saliva; Urine; Avian influenza virus; Liquid chromatography; Isotope labelling; Internal standard; Antiviral; Avian influenza; Ion suppression

Desc. génériques : Pharmacology; Medical sciences; Biochemistry; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Exo α sialidase; O Glycosidases; Glycosidases; Hydrolases; Enzyme; Enzyme inhibitor; Neuraminidase inhibitor; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Developpement; Validation; Analyse quantitative; Determination; Oseltamivir; Metabolite; Carboxylate; Liquide biologique; Plasma sanguin; Salive; Urine; Influenzavirus aviaire; Chromatographie phase liquide; Marquage isotopique; Etalon interne; Antiviral; LC MS MS; Analyse a haut debit; Grippe aviaire; Suppression ion

Desc. génériques : Pharmacologie; Sciences medicales; Biochimie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Exo α sialidase; O Glycosidases; Glycosidases; Hydrolases; Enzyme; Inhibiteur

enzyme; Inhibiteur neuraminidase; Infection; Virose

Localisation : INIST, Shelf number 8577B, INIST No. 354000172603580110

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Functional genomic and serological analysis of the protective immune response resulting from vaccination of macaques with an NS1-truncated influenza virus

Titre : Functional genomic and serological analysis of the protective immune response resulting from vaccination of macaques with an NS1-truncated influenza virus

Auteur(s) : BASKIN C R; BIELEFELDT OHMANN H; GARCIA SASTRE A; TUMPEY T M; VAN HOEVEN N; CARTER V S; THOMAS M J; PROLL S; SOLORZANO A; BILLHARZ R; FORNEK J L; THOMAS S; CHEN C H; DARK E A; MURALI KRISHNA Kaja; KATZE M G

Affiliation(s) : Department of Comparative Medicine, University of Washington, Seattle, Washington 98195, United States; Washington National Primate Research Center, University of Washington, Seattle, Washington 98195, United States; College of Veterinary Medicine & Biomedical Sciences, Department of Microbiology, Immunology & Pathology, Colorado State University, Fort Collins, Colorado, United States; Department of Microbiology, Mount Sinai School of Medicine, New York, New York 10029, United States; Department of Medicine, Mount Sinai School of Medicine, New York, New York 10029, United States; Division of Infectious Diseases, and Emerging Pathogens Institute, Mount Sinai School of Medicine, New York, New York 10029, United States; Influenza Division, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia 30333, United States; Department of Microbiology, University of Washington, Seattle, Washington 98195, United States; Department of Immunology, University of Washington, Seattle, Washington 98195, United States

Source : Journal of virology. 2007; 81 (21) : 11817-11827

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 52 ref.

Résumé : We are still inadequately prepared for an influenza pandemic due to the lack of a vaccine effective for subtypes to which the majority of the human population has no prior immunity and which could be produced rapidly in sufficient quantities. There is therefore an urgent need to investigate novel vaccination approaches. Using a combination of genomic and traditional tools, this study compares the protective efficacy in macaques of an intraspiratory live influenza virus vaccine produced by truncating NS1 in the human influenza A/Texas/36/91 (H1N1) virus with that of a conventional vaccine based on formalin-killed whole virus. After homologous challenge, animals in the live-vaccine group had greatly reduced viral replication and pathology in lungs and reduced upper respiratory inflammation. They also had lesser induction of innate immune pathways in lungs and of interferon-sensitive genes in bronchial epithelium. This postchallenge response contrasted with that shortly after vaccination, when more expression of interferon-sensitive genes was observed in bronchial cells from the live-vaccine group. This suggested induction of a strong innate immune response shortly after vaccination with the NS1-truncated virus, followed by greater maturity of the postchallenge immune response, as demonstrated with robust influenza virus-specific CD4⁺ T-cell proliferation, immunoglobulin G production, and transcriptional induction of T- and B-cell pathways in lung tissue. In conclusion, a single respiratory tract inoculation with an NS1-truncated influenza virus was effective in protecting nonhuman primates from homologous challenge. This protection was achieved in the absence of significant or long-lasting adverse effects and through induction of a robust adaptive immune response.

Code(s) de classement : 002A05C10

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Genomics; Immunoprotection; Vaccination; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus

Descripteur(s) français

Descripteur(s) : Influenzavirus; Genomique; Immunoprotection; Vaccination; Virologie
Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus
Localisation : INIST, Shelf number 13592, INIST No. 354000162035160290

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Characterization of low-pathogenicity H5N1 avian influenza viruses from north america

Titre : Characterization of low-pathogenicity H5N1 avian influenza viruses from north america

Auteur(s) : SPACKMAN Erica; SWAYNE David E; SUAREZ David L; SENNE Dennis A; PEDERSEN Janice C; LEA KILLIAN Mary; PASICK John; HANDEL Katherine; SOMANATHAN PILLAI Smitha P; LEE Chang Won; STALLKNECHT David; SLEMENS Richard; IP Hon S; DELIBERTO Tom

Affiliation(s) : Southeast Poultry Research Laboratory, USDA-ARS, Athens, Georgia, United States; National Veterinary Services Laboratories, USDA-APHIS, Ames, Iowa, United States; National Centre for Foreign Animal Disease, CFIA, Winnipeg, Manitoba, Canada; The Ohio State University, Food Animal Health Research Program, Ohio Agricultural Research and Development Center, Wooster, Ohio, United States; The Ohio State University, Department of Veterinary Preventive Medicine, College of Veterinary Medicine, Columbus, Ohio, United States; Southeastern Cooperative Wildlife Disease Study, College of Veterinary Medicine, University of Georgia, Athens, Georgia, United States; USGS National Wildlife Health Center, Madison, Wisconsin, United States; USDA-APHIS Wildlife Services, Fort Collins, Colorado, United States

Source : Journal of virology. 2007; 81 (21) : 11612-11619

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 34 ref.

Résumé : Wild-bird surveillance in North America for avian influenza (AI) viruses with a goal of early identification of the Asian H5N1 highly pathogenic AI virus has identified at least six low-pathogenicity H5N1 AI viruses between 2004 and 2006. The hemagglutinin (HA) and neuraminidase (NA) genes from all 6 H5N1 viruses and an additional 38 North American wild-bird-origin H5 subtype and 28 N1 subtype viruses were sequenced and compared with sequences available in GenBank by phylogenetic analysis. Both HA and NA were phylogenetically distinct from those for viruses from outside of North America and from those for viruses recovered from mammals. Four of the H5N1 AI viruses were characterized as low pathogenicity by standard in vivo pathotyping tests. One of the H5N1 viruses, A/MuteSwan/MI/451072-2/06, was shown to replicate to low titers in chickens, turkeys, and ducks. However, transmission of A/MuteSwan/MI/451072-2/06 was more efficient among ducks than among chickens or turkeys based on virus shed. The 50% chicken infectious dose for A/MuteSwan/MI/451072-2/06 and three other wild-waterfowl-origin H5 viruses were also determined and were between 10^{5-7} and 10^{7-5} 50% egg infective doses. Finally, seven H5 viruses representing different phylogenetic clades were evaluated for their antigenic relatedness by hemagglutination inhibition assay, showing that the antigenic relatedness was largely associated with geographic origin. Overall, the data support the conclusion that North American H5 wild-bird-origin AI viruses are low-pathogenicity wild-bird-adapted viruses and are antigenically and genetically distinct from the highly pathogenic Asian H5N1 virus lineage.

Code(s) de classement : 002A05C10; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Pathogenicity; North America; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; America

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Pouvoir pathogène; Amérique du Nord; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Amérique

Localisation : INIST, Shelf number 13592, INIST No. 354000162035160080

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Immunization of primates with a newcastle disease virus-vectored vaccine via the respiratory tract induces a high titer of serum neutralizing antibodies against highly pathogenic avian influenza virus

Titre : Immunization of primates with a newcastle disease virus-vectored vaccine via the respiratory tract induces a high titer of serum neutralizing antibodies against highly pathogenic avian influenza virus

Auteur(s) : DINAPOLI Joshua M; LIJUAN YANG; SUGUITAN Amoroso JR; ELANKUMARAN Subbiah; DORWARD David W; MURPHY Brian R; SAMAL Siba K; COLLINS Peter L; BUKREYEV Alexander

Affiliation(s) : Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland 20892, United States; Virginia-Maryland Regional College of Veterinary Medicine, University of Maryland, College Park, Maryland 20742, United States; Rocky Mountain Labs Research Technologies Section, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Hamilton, Montana 59840, United States

Source : Journal of virology. 2007; 81 (21) : 11560-11568

ISSN : 0022-538X

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 28 ref.

Résumé : The ongoing outbreak of highly pathogenic avian influenza virus (HPAIV) in birds, the incidence of transmission to humans with a resulting high mortality rate, and the possibility of a human pandemic warrant the development of effective human vaccines against HPAIV. We developed an experimental live-attenuated vaccine for direct inoculation of the respiratory tract based on recombinant avian Newcastle disease virus (NDV) expressing the hemagglutinin (HA) glycoprotein of H5N1 HPAIV (NDV-HA). Expression of the HPAIV HA gene slightly reduced NDV virulence, as evidenced by the increased mean embryo death time and reduced replication in chickens. NDV-HA was administered to African green monkeys in two doses of 2×10^7 infectious units each with a 28-day interval to evaluate the systemic and local antibody responses specific to H5N1 HPAIV. The virus was shed only at low titers from the monkeys, indicative of safety. Two doses of NDV-HA induced a high titer of H5N1 HPAIV-neutralizing serum antibodies in all of the immunized monkeys. Moreover, a substantial mucosal immunoglobulin A response was induced in the respiratory tract after one and two doses. The titers of neutralizing antibodies achieved in this study suggest that the vaccine would be likely to prevent mortality and reduce morbidity caused by the H5N1 HPAIV. In addition, induction of a local immune response in the respiratory tract is an important advantage that is likely to reduce or prevent transmission of the virus during an outbreak or a pandemic. This vaccine is a candidate for clinical evaluation in humans.

Code(s) de classement : 002A05C10; 002A05C07; 002A05C04

Descripteur(s) anglais

Descripteur(s) : Primates; Newcastle disease virus; Avian influenza virus; Immunization; Vaccine; Animal; Vector; Respiratory tract; Serum; Biological fluid; Neutralizing antibody; Pathogenicity; Virology

Desc. génériques : Virology; Microbiology; Biological sciences; Immunology; Pharmacology; Virology; Microbiology; Biological sciences; Virology; Microbiology; Biological sciences; Mammalia; Vertebrata; Rubulavirus; Paramyxovirinae; Paramyxoviridae; Mononegavirales; Virus; Influenzavirus A; Orthomyxoviridae; Veterinary

Descripteur(s) français

Descripteur(s) : Primates; Virus Newcastle maladie; Influenzavirus aviaire; Immunisation; Vaccin; Animal; Vecteur; Voie respiratoire; Serum; Liquide biologique; Anticorps neutralisant; Pouvoir pathogène; Virologie

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Immunologie; Pharmacologie; Virologie; Microbiologie; Sciences biologiques; Virologie; Microbiologie; Sciences biologiques; Mammalia; Vertebrata; Rubulavirus; Paramyxovirinae; Paramyxoviridae; Mononegavirales; Virus; Influenzavirus A; Orthomyxoviridae; Veterinaire

Localisation : INIST, Shelf number 13592, INIST No. 354000162035160020

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Generation of an attenuated H5N1 avian influenza virus vaccine with all eight genes from avian viruses

Titre : Generation of an attenuated H5N1 avian influenza virus vaccine with all eight genes from avian viruses

Auteur(s) : HUOYING SHI; XIU FAN LIU; XIAORONG ZHANG; SUJUAN CHEN; LEI SUN; JIANHONG LU

Affiliation(s) : Animal Infectious Disease Laboratory, School of Veterinary Medicine, Yangzhou University, 88 Daxue Road (South), 225009 Yangzhou, Jiangsu, China

Source : Vaccine . 2007; 25 (42) : 7379-7384

ISSN : 0264-410X

CODEN : VACCDE

Date de publication : 2007

Pays de publication : United Kingdom

Langue(s) : English

Type de document : Serial

Nombre de références : 28 ref.

Résumé : In the face of disease outbreaks in poultry and the potential pandemic threat to humans caused by the highly pathogenic avian influenza viruses (HPAIVs) of H5N1 subtype, improvement in biosecurity and the use of inactivated vaccines are two main options for the control of this disease. Vaccine candidates of influenza A viruses of H5N1 subtype have been generated in several laboratories by plasmid-based reverse genetics with hemagglutinin (HA) and neuraminidase (NA) genes from the epidemic strains of avian viruses in a background of internal genes from the vaccine donor strain of human strains, A/Puerto Rico/8/34 (PR8). These reassortant viruses containing genes from both avian and human viruses might impose biosafety concerns, also may be do if C4/F AIV would be a live attenuated vaccine or cold-adaptive strain vaccine. In order to generate better and safer vaccine candidate viruses, we genetically constructed attenuated reassortant H5N1 influenza A virus, designated as C4/F AIV, by plasmid-based reverse genetics with all eight genes from the avian strains. The C4/F AIV virus contained HA and NA genes from an epidemic strain A/Chicken/Huadong/04 (H5N1) (C4/H5N1) in a background of internal genes derived from a low pathogenic strain of A/Chicken/F/98(H9N2). The reassortant virus was attenuated by removal of the multibasic amino acid motif in the HA gene by mutation and deletion (from PQRERRRKKR<Down arrow>G to PQIETR<Down arrow>G). The intravenous pathogenicity index (IVPI) of C4/F AIV virus was 0, whereas that of the donor virus C4/H5N1 was 3.0. The virus HA titer of C4/H5N1 in the allantoic fluid from infected embryonated eggs was as high as 1:2048. The inactivated vaccine prepared from the reassortant virus C4/F AIV-induced high HI titer in vaccinated chickens and gave 100% protection when challenged with highly pathogenic avian influenza virus of H5N1 subtype.

Code(s) de classement : 002A05C10; 002A05F04

Descripteur(s) anglais

Descripteur(s) : Avian influenza virus; Aves; Vaccine; Gene; Genetics; Method

Desc. génériques : Virology; Microbiology; Biological sciences; Applied microbiology; Microbiology; Biological sciences; Influenzavirus A; Orthomyxoviridae; Virus; Vertebrata; Zoopathogen

Descripteur(s) français

Descripteur(s) : Influenzavirus aviaire; Aves; Vaccin; Gene; Genetique; Methode

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Microbiologie appliquée; Microbiologie; Sciences biologiques; Influenzavirus A; Orthomyxoviridae; Virus; Vertebrata; Zoopathogene

Localisation : INIST, Shelf number 20289, INIST No. 354000162005120130

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Grippe aviaire et homeopathie; Avian influenza and homeopathy

Titre : Grippe aviaire et homeopathie; Avian influenza and homeopathy

Auteur(s) : GOUTEYRON Jean Francois

Affiliation(s) : Oto-Rhino-Laryngologiste -Vice President du Centre d'Etudes Homeopathiques de France, France

Source : L' Homeopathie europeenne. 2007; 16 (5) : 5-7

ISSN : 1244-2356

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial

Nombre de références : 4 ref.

Code(s) de classement : 002B02A04; 002B05C02C

Descripteur(s) anglais

Descripteur(s) : Homeopathy; Human; Treatment; Avian influenza

Desc. génériques : Pharmacology; Medical sciences; ENT; Pneumology; Respiratory system; Virology; Infectious diseases; Medical sciences; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Homeopathie; Homme; Traitement; Grippe aviaire

Desc. génériques : Pharmacologie; Sciences medicales; ORL; Pneumologie; Appareil respiratoire; Virologie; Maladies infectieuses; Sciences medicales; Infection; Virose

Localisation : INIST, Shelf number 22770, INIST No. 354000143478770010

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

Analysis of poultry house ventilation using computational fluid dynamics

Titre : Analysis of poultry house ventilation using computational fluid dynamics

Auteur(s) : PAWAR S R; CIMBALA J M; WHEELER E F; LINDBERG D V

Affiliation(s) : Department of Mechanical and Nuclear Engineering, The Pennsylvania State University, University Park, Pennsylvania, United States; Department of Agricultural and Biological Engineering, The Pennsylvania State University, University Park, Pennsylvania, United States; Department of Architecture, The Pennsylvania State University, University Park, Pennsylvania, United States

Source : Transactions of the ASABE. 2007; 50 (4) : 1373-1382

Date de publication : 2007

Pays de publication : United States

Langue(s) : English

Type de document : Serial

Nombre de références : 1/4 p.

Résumé : . The airflow in and around poultry houses was studied numerically with the goal of determining the disease spread characteristics and comparing two ventilation schemes. A typical manure-belt laying hen egg production facility was considered. The continuity, momentum, and energy equations were solved for flow both inside and outside poultry houses using the commercial computational fluid dynamics (CFD) code FLUENT. The geometry was constructed by making some simplifying assumptions, such as two-dimensionality. The spread of virus particles was considered analogous to diffusion of a tracer contaminant gas, in this case ammonia (NH₃). The effect of thermal plumes produced by the hens in the poultry house was also taken into consideration. Two ventilation schemes with opposite flow directions were compared. Contours of temperature and contaminant mass fraction for both cases were obtained and compared. The analysis shows that ventilation and air quality characteristics were much better for the case in which the airflow was from bottom to top instead of from top to bottom (top to bottom is how most current poultry houses are configured). This has implications for air quality control in the event of epidemic outbreaks. Decreased contaminant spread to downwind poultry houses was observed in the bottom-to-top airflow scheme.

Code(s) de classement : 002A32A05; 002A36C03; 002B05C03

Descripteur(s) anglais

Descripteur(s) : Analysis; Ventilation; Computational fluid dynamics; Contaminant; Disease; Dynamic characteristic; Air quality; Organic waste; Thermal phenomenon; Avian influenza virus; Poultry; Plume; Agriculture; Engineering; Poultry housing; Avian influenza; Bioengineering

Desc. génériques : Biological sciences; Agriculture; Animal production; Invertebrates zootechny; Biological sciences; Virology; Infectious diseases; Medical sciences; Influenzavirus A; Orthomyxoviridae; Virus; RNA virus; Zoopathogen; Animal housing; Viral disease; Infection

Descripteur(s) français

Descripteur(s) : Analyse; Ventilation; Mécanique fluide numérique; Contaminant; Maladie; Caractéristique dynamique; Qualité air; Déchet organique; Phénomène thermique; Influenzavirus aviaire; Volaille; Panache; Agriculture; Ingénierie; Logement des volailles; Grippe aviaire; Génie biologique

Desc. génériques : Sciences biologiques; Agriculture; Production animale; Zootechnie des invertébrés; Sciences biologiques; Virologie; Maladies infectieuses; Sciences médicales; Influenzavirus A; Orthomyxoviridae; Virus; Virus a ARN; Zoopathogène; Logement des animaux; Virose; Infection

Localisation : INIST, Shelf number 2869, INIST No. 354000160857150260

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.

L' influenza aviaire et autres pathologies des volailles en Afrique subsaharienne : experience personnelle au Benin

Titre : L' influenza aviaire et autres pathologies des volailles en Afrique subsaharienne : experience personnelle au Benin

Auteur(s) : MIGUEL GBAGUIDI Lionel
Affiliation(s) : Agrivet Partners, Cotonou, Benin

Source : Sciences 1969. 2007; (2) : 15-21

Informations congrès : *Mediterranee : le partage du savoir. Colloque, *Trieste Italy, *2006-08-06

ISSN : 0151-0304

Date de publication : 2007

Pays de publication : France

Langue(s) : French

Type de document : Serial; *Conference-Meeting

Nombre de références : 16 ref.

Code(s) de classement : 002A05C06

Descripteur(s) anglais

Descripteur(s) : Influenzavirus; Benin; Poultry farming; Sub Saharan Africa; Epizootics; Sanitary surveillance; Emerging disease; Avian influenza; Influenzavirus AH5N1

Desc. génériques : Virology; Microbiology; Biological sciences; Orthomyxoviridae; Virus; Africa; Infection; Viral disease

Descripteur(s) français

Descripteur(s) : Influenzavirus; Benin; Aviculture; Afrique subsaharienne; Epizootie; Surveillance sanitaire; Maladie émergente; Grippe aviaire; Influenzavirus AH5N1

Desc. génériques : Virologie; Microbiologie; Sciences biologiques; Orthomyxoviridae; Virus; Afrique; Infection; Virose

Localisation : INIST, Shelf number 14454, INIST No. 354000161468710040

Origine de la notice : INIST

Copyright de notice : <Copyright> 2007 INIST-CNRS. All rights reserved.