4th Vaccine and ISV Annual Global Congress
Poster Programme

***There will be a poster prize and the winner will be announced at the start of the last plenary session on Tuesday.

Poster	Titles, Authors & Affiliations
	Session 1- 18:05 - 19:30 Sunday 3rd October 2010 **P1.1- Immunogenicity analysis of vaccines**
[P1.1.01]	**Evaluation of saCOL2291 & saCOL2581 genes polymorphism, new candidate genes for preparation of S.aureus vaccine** H.R. Nejad*[1], M.R. Pourmand[2], J.F. Mehrabadi[3], M. R. Zollfaghari[1], *[1]Islamic Azad University, Iran [2]Tehran University of Medical Sciences, Iran, [3]MARS Bioinformatics Institute, Iran*
[P1.1.02]	**Vaccination schedule affected the protective efficacy of an Ag85B based subunit vaccine to boost BCG primed immunity against Mycobacterium tuberculosis infection in mice** B.D. Zhu*[1], W.W. Jiang[1], Z.J. Da[1], B.X. Wang[2], T. Jing[1], Y. Zhang[3], L.F. Fu[2], L. Hu[2], H.J. Yu[1], Y. Luo[1], Y. Wang[4], T. jing[1], *[1]Lanzhou University, China, [2]Lanzhou Institute of Biological Products, China, [3]Johns Hopkins University, USA, [4]Wuhan University, China*
[P1.1.03]	**Prediction efficacy of oil-emulsion newcastle disease vaccines by the amount of recovered total protein and hemagglutination activity** Z. Rajabi*, A.H. Asl-Najari, *University of Tabriz, Iran*
[P1.1.04]	**Moisture induced aggregation of tetanus toxoid: comparison of 'accelerated stability' and 'real-time' studies** N.K. Jain*, I. Roy, *National Institute of Pharmaceutical Education and Research (NIPER), India*
[P1.1.05]	**Experimental study on hepatitis C virus (HCV) infection in Tupaia belangeri** Y.Y. Han*[1], X.S. Xia[2], Y. Feng[2], X.M. Sun[1], J.J. Dai[1], D.X. Kuang[1], *[1]Chinese Academy of Medical Science / Peking Union Medical College, China, [2]Kunming University of Science and Technology, China*
[P1.1.06]	**Evaluation of DNA vaccines expressing N-terminal fragments of pneumococcal surface protein from clade 4 (PspA4) against an intranasal lethal challenge model in mice** C.F. Marques, D.M. Ferreira, A.T. Moreno, E.N. Miyaji*, *Instituto Butantan, Brazil*
[P1.1.07]	**Vaccination with recombinant immunogenic fused protein GAPDH-MRP-HM6 of streptococcus suis serotype 2 provides protection in zebrafish** Y.Q. Liang, Y.B. Shi, Y.X. Yan, J.H. Sun*, C.P. Lu, *Shanghai Jiao Tong University, China*
[P1.1.08]	**The preliminary preparation of plasmid DNA-based vaccine against influenza A subtypes** M. Esghaei*[1], F. Fotouhi[2], H.R. Monavari[1], B. Heydarchi[2], M.T. Kheiri[2], M.S. Shahrabadi[1], *[1]Iran University of Medical Sciences, Iran [2]Pasteur Institute of Iran, Iran*
[P1.1.09]	**Vaccination with adenoviral expression/display vector against retrovirus infection induces improved neutralizing antibody and $CD4^+$ T cell responses in mice** W. Bayer*[1], M. Tenbusch[2], S. Schimmer[1], K. Überla[2], U. Dittmer[1], O. Wildner[3], *[1]University Hospital Essen, Germany, [2]Ruhr-University Bochum, Germany, [3]Paul-Ehrlich-Institute, Germany*
[P1.1.10]	**Evaluation on a novel virulence gene deleted Salmonella Typhimurium vaccine candidate and their optimization of efficacy by various routes of inoculation using a murine model** J.H. Lee*, J. Hur, *Chonbuk National University, Korea*
[P1.1.11]	**Construction of genetically defined AroA mutant of a native E. coli O78: K80 isolated from avian colibacillosis in Iran** B. Nayeri Fasaei*[1], H. Tadjbakhsh[1], T. Zahraei Salehi[1], R. Firuzi[2], J. Casadesus[3], *[1]University of Tehran,, Iran, [2]University of Shiraz, Iran [3]University of Sevilla, Spain*
[P1.1.12]	**Assessment of immunity against avian colibacillosis induced by an AroA mutant containing increased serum survival gene in broilers** T.Z. Zahraei Salehi*[1], S. Tabatabaei[1], V. Karimi[1], B.N. Fasaei[1], A. Derakhshandeh[2], O.N. Jahromi[1], *[1]University of Tehran, Iran [2]Shiraz University, Iran*
[P1.1.13]	**Comparative analysis of Salmonella enterica serovar Enteritidis mutants with a vaccine potential** J. Volf*, D. Karasova, A. Sebkova, H. Havlilckova, F. Sisak, L. Pilousova, *Veterinary Research Institute, Czech Republic*

[P1.1.14]	**Protein secretion in attenuated Salmonella enterica mutants** L. Pilousova*, M. Crhanova, M. Malcova, M. Mazgajova, D. Karasova, A. Sebkova, *Veterinary Research Institute, Czech Republic*
[P1.1.15]	**A novel recombinant virus-like particle vaccine for porcine encephalomyocarditis virus** H.Y. Jeoung*[1], W.S. Jeong[1], B.H. Shin[1], H.W. Choi[2], D.J. An[1], *[1]National Veterinary Research and Quarantine Service, Korea, [2]ChoongAng Vaccine Lab, Korea*
[P1.1.16]	**A next-generation prime-boost strategy for the prevention of tuberculosis** D.J. Laddy*[1], M. Douoguih[1], R. Chang[1], J.C. Sadoff[2], M. Grazia Pau[2], B. McClain[1], J. Fulkerson[1], D. Sizemore[1], *[1]Aeras Global TB Vaccine Foundation, USA, [2]Crucell Holland B.V., Netherlands*
[P1.1.17]	**Role of NSs protein in the immunogenicity of Rift Valley fever virus MP-12 vaccine strain** O. Lihoradova, B. Kalveram, T. Ikegami*, *University of Texas Medical Branch, USA*
[P1.1.18]	**A live oral Lawsonia intracellularis vaccine does not result in protective immunity comparable to that of a virulent strain** H. Cordes*, U. Riber, M. Ståhl, T.K. Jensen, P.M.H. Heegaard, G. Jungersen, *Technical University of Denmark, Denmark*
[P1.1.19]	**Immune efficacy comparison of a rPA/Alhydrogel anthrax vaccine and a live attenuated anthrax vaccine in rabbits** D.Y. Dong*, J.J. Xu, W. Chen, *Beijing Institute of Microbiology and Epidemiology, China*
[P1.1.20]	**Development and testing of a novel live-attenuated chikungunya vaccine** K.S. Plante*[1], E. Wang[1], R. Gorchakov[1], N. Forrester[1], K. Tsetsarkin[1], I. Frolov[2], S. Weaver[1], *[1]University of Texas, USA, [2]University of Alabama, USA*
[P1.1.21]	**Identification and development of a promising novel mumps vaccine candidate strain** Y. Liang, S.H. Ma, L.D. Liu*, L.C. Wang, L. Jiang, Q.H. Li, *Chinese Academy of Medicine Science, China*
[P1.1.22]	**Complementary evaluations of pcDNA3.1+PA plasmid as a DNA vaccine** F. Vahedi*[1], S. Arbabi[2], N. Nazari[2], *[1]Razi Vaccine & Serum research Institute, Iran, [2]Payam-e- Noor University, Iran*
[P1.1.23]	**Induction of immune response by purified outer membrane protein complexes from Neisseria meningitidis** J. Marzoa*[1], S. Sánchez[1], L. Costoya[1], C. Brookes[2], M.T. Criado[1], C.M. Ferreirós[1], *[1]University of Santiago de Compostela, Spain, [2]Health Protection Agency, USA*
[P1.1.25]	**A conserved *Shigella* protein antigen adjuvanted with IC31® elicits protection in a murine model of shigellosis** G. Nagy*, B. Wizel, E. Nagy, *Intercell AG, Austria*
[P1.1.26]	**A pandemic influenza H1N1 live vaccine based on modified vaccinia Ankara is highly immunogenic and protects mice in active and passive immunizations** A. Hessel*, M. Schwendinger, S. Coulibaly, T.R. Kreil, P.N. Barrett, F.G. Falkner, *[1]Baxter BioScience, Austria*
[P1.1.27]	**Immune responses against a liver-stage malaria antigen by simian adenoviral vector AdCh63 and MVA prime-boost in non-human primates** A. Reyes-Sandoval*[1], S. Capone[2], A. Nicosia[2], S. Colloca[2], A. Folgori[2], A.V.S. Hill[1], L. Siant[2], M. Naddeo[2], V. Ammendola[2], S.C. Gilbert[1], R. Cortese[2], *[1]The Jenner Institute, USA, [2]Okairos, Italy*
[P1.1.28]	**Protective immunity against *salmonella* in mice can be promoted by an attenuated mutant strain of S. enteritidis lacking sope and sodC genes** D.V. Araya[1], T.S. Quiroz[1], C.A. Santiviago[1], C.A. Riedel[2], A.M. Kalergis[1], S.M. Bueno*[1], *[1]Pontificia Universidad Católica de Chile, Chile, [2]Universidad de Chile, Chile, [3]Universidad Andrés Bello, Chile*
[P1.1.29]	**Preparation and immunological evaluation of glycoconjugates from streptococcus pneumoniae serotype 19F to different protein carriers** Y. Valdes*, E. Santiesteban, D. Santana, M. Martínez, L. Peña, A. Alonso, *Center for Biomolecular Chemistry, Cuba*
[P1.1.31]	**Comparative study on immunogenicity of formaldehyde and binary ethylenimine (BEI) inactivated Newcastle disease virus (V4) in chickens** N. Razmaraii*[1], I. Khalili[1], R. Toroghi[1], M.M. Ebrahimi[1], M. Moghaddam Pour[1], H. Sadri[2], *[1]RAZI vaccine and serum research institute , Iran, [2]Medicine University of Tabriz, Iran*

[P1.1.32]	**Granulysin as a correlate of immune response following mycobacterial infection** V. E. Calderon[1], E. Silva[1], L.Santos[1], W. R. Waters[2], M. V. Palmer[2], T. C. Thacker[2], W. R. Jacobs Jr.[3], M.H. Larsen[3], C. Vilcheze[3], D Mark Estes[1] *[1]University of Texas Medical Branch, USA, [2]U.S. Department of Agriculture, USA , [3]Albert Einstein College of Medicine, USA*
	P1.2- Antigen discovery and vaccine production
[P1.2.01]	**Plant base production of chimeric EspA, Intimin and Tir of Escherichia coli O157:H7; an insight into its immunological evaluation in animal model** J. Amani*[1,2], S.L. Mousavi[3], S. Rafati[4], A.H. Salmanian[1], *[1]National Institute of Genetic Engineering and Biotechnology (NIGEB), Iran, [2]Baqiyatallah Medical Science University, Iran, [3]Shahed University, Iran, [4]Pasteur Institute of Iran, Iran*
[P1.2.03]	**Comparative evaluation of fimH gene variation in commensal and uropathogenic escherichia coli** H. Ghoraba[2], J. Fallah Mehrabadi*[1], A.A. Imani Fouladi[3], H. Rohani nejad[2], *[1]MARS Bioinformatics Institute, Iran, [2]Islamic Azad University, Iran[3]Baghiyatallah University of Medical Sciences, Iran*
[P1.2.04]	**Screening to reveal potentially protective pneumococcal proteins after experimental human nasopharyngeal challenge** D.M. Ferreira*[1], E. Bate[1], J. Gritzfeld[1], A.K.A. Wright[2], K. Jambo[1], S. Gordon[1], *[1]Liverpool School of Tropical Medicine, USA, [2]NIHR Biomedical Research Centre, USA*
[P1.2.05]	**Construction of a chimerical pcDNA carrying Influenza virus M2 protein and HSP70 gene as a potent DNA vaccine** F. Fotouhi*[1], B. Heydarchi[1], M. Esghaei[2], M. Tavassoti Kheiri[1], *[1]Pasteur Institute of Iran, Iran, [2]Iran University of Medical Sciences, Iran*
[P1.2.06]	**Improving influenza vaccine quantification; a comparative study of SRID and SPR** C Estmer Nilsson*, S Abbas, M Bennemo, A Larsson, M Hämälainen, Å Frostell-Kalrsson, *GE Healthcare AB, Sweden*
[P1.2.07]	**The assessment processes of novel influenza A/H1N1 vaccines in Japan** A. Sakaguchi*, S. Fukunaga, H. Mizuta, Y. Jotatsu, M. Shikano, *Pharmaceuticals and Medical Devices Agency, Japan*
[P1.2.08]	**Changes of physiological and biochemical properties of Salmonella enterica serovar Typhimurium by deletion of cpxR and lon genes using allelic exchange method** J.H. Lee*, *Chonbuk National University, Korea*
[P1.2.09]	**A novel method detecting bacterial surface proteins to evaluate the efficiency of Streptococcus suis serotype 2 vaccine** W. Zhang, G.J. Liu, C.P. Lu*, *Nanjing Agricultural University, China*
[P1.2.10]	**Characterisation and stability of four seasonal influenza vaccines** E. Patois*[1], M. Capelle[2], T. Arvinte[1,2], R. Gurny[1], *[1]University of Lausanne, Switzerland, [2]Therapeomic Inc., Switzerland*
[P1.2.11]	**Sequence plasticity of west nile virus envelope protein domain III surface loops** J.A. Lewis*, S. Zhang, D.W.C. Beasley, *University of Texas, USA*
[P1.2.12]	**Bifidobacteria use as a vaccine model to attenuate the virulence of Stx produced by E. coli O157:H7** Y. Tahamtan*, A. Rahimian, M. Hayati, N. Namdar, *Razi Vaccine and Serum Research Institute, Iran*
[P1.2.13]	**A novel, effective and versatile vaccine approach against influenza: soluble multimeric recombinant HA and NA glycoproteins** B.J. Bosch[1], L.A.H.M. Cornelissen[3], R. Bodewes[2], A.D.M.E. Osterhaus[2], C.A.M. de Haan[1], P.J.M. Rottier*[1], *[1]Utrecht University, Netherlands, [2]Erasmus Medical Centre Rotterdam, Netherlands, [3]Wageningen University, Netherlands*
[P1.2.14]	**Sequencing and molecular analysis of SuduVax, Korean chickenpox vaccine strain** C.H. Lee*[1], G.S. Jung[1], G.H. Kim[2], S.N. Kwon[2], A.R. Choi[2], S.Y. Park[2], *[1]Chungbuk National University, Korea, [2]Mogam Biotechnology Institute, Korea*
[P1.2.15]	**Developing a universal influenza a vaccine consisting of four M2e peptides fused to the $NSP4_{98-135}$ fragment of rotavirus** A. Andersson*, J. Pravsgaard Christensen, A. Randrup Thomsen, *Institute of International Health, Immunology and Microbiology, Denmark*
[P1.2.16]	**Moraxella catarrhalis and nontypeable Haemophilus influenzae proteins for otitis media vaccine development**

	M. Smidt*, M. Hanner, E. Nagy, A. von Gabain, M.B. Oleksiewicz, *Intercell AG, Austria*
[P1.2.17]	**New approach of conjugate vaccine against *streptococcus pneumoniae*** C.T. Perciani*, G.C. Barazzone, C. Goulart, V.M. Gonçalves, M.M. Tanizaki, *Butantan Institute, Brazil*
[P1.2.18]	**Using mass spectrometry to speed up the production of high quality influenza vaccine** C.L. Pierce*, T.L. Williams, R. Donis, J.L. Pirkle, J.R. Barr, [1]*Centers for Disease Control and Prevention, USA*
[P1.2.20]	**Improved recombinant E. coli culture conditions and induction strategies for antigen production of swine erysipelas subunit vaccine** A.J. Silva*, A.C.L. Horta, R.C. Giordano, M.T.M. Novo, T.C. Zangirolami, *Federal University of São Carlos, Brazil*
[P1.2.21]	**Recombinant polysaccharide vaccine for brucellosis** C.L. Lonsdale*, H.S. Atkins, J.L. Prior, *Dstl, USA*
[P1.2.22]	**Development of in vitro vaccine design system on the basis of enzymatic modification of virus-like particles** D. Zhulenkovs*, I. Petrovskis, I. Sominskaya, P. Pumpens, A. Leonchiks, *Biomedical Research and Study Centre, Latvia*
[P1.2.23]	**Vaccination with the Leishmune®´s nucleoside hydrolase maps the C-terminal domain as the target of the protective immune response** D. Nico[1], C. Claser[2,6], G.P. Borja Cabrera[1], L.R. Travassos[3], I.S. Soares[5], C.B. Palatnik-de-Sousa*[1], [1]*Universidade Federal do Rio de janeiro (UFRJ), Brazil,* [2]*Centro Interdisciplinar de Terapis Génica UNIFESP, Brazil,* [3]*Unidade de Oncologia Experimental UNIFESP, Brazil,* [4]*Hospital Universitario CFFo-FAc de Medicina UFRJ, Brazil,* [5]*Universidade de São Paulo, Brazil,* [6]*Singapore Immunology Network, Singapore*
[P1.2.24]	**Cloning, expression and characterization of leptospira interrogans serovar copenhageni LIC13435 gene** V.L. Hashimoto*[1,3], M.Z. Moraes[2], P.L. Ho[1,3], A.P. Gonçales[2], S.A. Vasconcellos[2], [1]*Instituto Butantan, Brazil,* [2]*Laboratório de Zoonoses Bacterianas, Brazil,* [3]*Instituto de Ciências Biomédicas da USP, Brazil*
[P1.2.25]	**Stabilisation technology for vaccines, adjuvants and complex biological molecules** J. Drew*, *Stabilitech Ltd, USA*
[P1.2.26]	**Schistosoma mansoni tegument protein P22 is able to induce protection against parasite infection** C.M. Rezende*, M.R. Silva, A.M. Goes, *Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, Brazil*
[P1.2.27]	**Stabilization, synthesis, drying and characterization of microparticles for inhalation and sublingual delivery of measles and HPV vaccines** S.P. Cape[1], R. Meesala*[2], D.H. McAdams[1], M.W. Howard[1], R.L. Garcea[1], E. Frederick[1], J.A. Searles[3], D.M. Krank[3], D.J. Bennett[3], P. Pathak[3], S.S. Evans[3], L.G. Rebits[1,3], S.E. Winston[3], R.G. Muley[4], V.B. Vaidya[4], R.M. Dhere[4], D.E. Griffin[5], W-H. Lin[5], P.A. Rota[6], M. Papania[6], K.G. Powell[7], C.D. Shermer[7], R.E. Sievers[1,3], [1]*University of Colorado, USA,* [2]*Sristek, India,* [3]*Aktiv-Dry LLC, USA,* [4]*Serum Institute of India, India,* [5]*Johns Hopkins Bloomberg School of Public Health, USA,* [6]*Centers for Disease Control and Prevention, USA,* [7]*BD Technologies, USA*
[P1.2.28]	**Production and purification of recombinant fragments of pneumococcal surface protein A (PspA) in Escherichia coli** G.C. Barazzone*[1], R.J.R. Carvalho[1], S. Kraschowetz[2], M.M. Tanizaki[1], V.M. Gonçalves[1], J. Cabrera-Crespo[1], et al, [1]*Instituto Butantan - Centro de Biotecnologia, Brazil,* [2]*Universidade Federal de São Carlos - Departamento de Engenharia Química, Brazil*
[P1.2.29]	**Inactivation by hydrostatic pressure preserves the hemagglutinin and neuraminidase activities of the avian influenza virus H3N8** S.P.C. Barroso[1], A.C.S. Vicente[1], P. Souza-Santos[1], D. Nico[1,2], J.N.S.S. Couceiro[1], C.B. Palatnik-de-Sousa*[1,2], [1]*Instituto de Bioquímica Médica da UFRJ, Brazil,* [2]*Instituto de Microbiologia, Brazil*
[P1.2.30]	**Different cultivations strategies to improve the capsular polysaccharide synthesis produced by Haemophilus influenzae type b** M.R. Silva[1], S.M.F. Albani[1], J. Cabrera-crespo[1], J.G.C. Pradella[3], T.C. Zangirolami[2], M. Takagi*[1], [1]*Butantan Institute, Brazil,* [2]*Universidade Federal de São Carlos, Brazil,* [3]*Centro em Ciencia em tecnologia do Bioetanol - CTBE, Brazil*
[P1.2.31]	**Purification of capsular polysaccharide from Haemophilus influenzae type b through ethanol precipitation associated with hollow fiber tangential microfiltration** S.M.F. Albani[1], M.R. Silva[1], T.C. Zangirolami[2], M. Takagi*[1], J. Cabrera-crespo[1], [1]*Instituto Butantan, Brazil,* [2]*Universidade Federal de São Carlos, Brazil*
[P1.2.32]	**Streptococcus pneumoniae serotype 14 continuous cultivation for vaccine production** V.M.R. Gogola, N.D. Zampoli, T.S. Carmo, D.B. Figueiredo, J. Cabrera-Crespo, V.M. Gonçalves*, J.C. Parizoto, S.M.F. Albani, M. Takagi, M.M. Tanizaki, *Centro de Biotecnologia, Instituto Butantan, Brazil*
[P1.2.33]	**FastVax: a rapid vaccine design strategy applied to universal influenza vaccine development**

	A.S. DeGroot*[1,2], L. Moise[1,2], M. Ardito[1], E.M. McClaine[1], R. DuPont[1], R. Tassone[1], et al, *[1]EpiVax, Inc., USA, [2]Institute for Immunology and Informatics, University of Rhode Island, USA*
[P1.2.34]	***In silico* assessment of structural basis for cross-reactivity among HCV genotype variants** D.A. Antunes, M.M. Rigo, S.P. Cibulski, M. Sinigaglia, J.A.B. Chies, G.F. Vieira*, *Universidade Federal do Rio Grande do Sul, Brazil*
[P1.2.35]	**In silico analysis of good and bad HLA ligands: a molecular dynamics approach** M.M. Rigo, D.A. Antunes, C.C. Fulber, M. Sinigaglia, J.A.B. Chies, G.F. Vieira*, *Universidade Federal do Rio Grande do Sul, Brazil*
[P1.2.36]	**Cloning and enhancement expression of codon optimize E7 - HSP70 fusion protein as HPV vaccine candidate** H. Razavi niko, H. Soleimanjahi*, F. Fotouhi, A. Ghaemi, *Modares university, Iran*
[P1.2.37]	***rE. coli* high cell density cultivation using glycerol as carbon source for PspA3 antigenic protein production** A.C.L. Horta[1], R.Jr. Carvalho[2], A.J. Silva*[1], C. Sargo[1], V.M. Gonçalves[2], T.C. Zangirolami[1], *[1]Federal University of São Carlos, Brazil, [2]Butantan Institute, Brazil*
[P1.2.38]	**Streptococcus pyogenes SpyCEP: a chemokine-inactivating protease with unique structural and biochemical properties** I. Margarit*[1], C. Zingaretti[2], F. Falugi[1], V. NardiDei[1], G. Pietrocola[3], M. Mariani[1], *[1]Novartis Vaccines, Italy, [2]Istituto Nazionale di Genetica Molecolare, Italy, [3]University of Pavia, Italy*
[P1.2.39]	**Developing a broadly protective vaccine against Staphylococcus aureus** F.B. Bagnoli*[1], R.M. Mishra[1], L.F. Fiaschi[1], O.S. Schneewind[2], R.R. Rappuoli[1], G.G. Grandi[1], *[1]Novartis Vaccines, Italy, [2]Uinversity of Chicago, USA*
[P1.2.40]	**Codon-optimized expression of fish iridovirus capsid protein in yeast and its application as a vaccine candidate** T.J. Kim*, J.Y. Seo, J.I. Lee, *Chonnam National University, Korea*
[P1.2.41]	**Glycoconjugates from streptococcus pneumonia capsular polysaccharide serotype 18C and 23F. the importance of substituents** J. Chang*[1], M. Pérez[2], G. Hernández[1], Y. Serrano[1], I. Fáez[1], R. Garrido[1], *[1]Center for Biomolecular Chemistry, Cuba, [2]FINLAY Institute, Cuba*
[P1.2.42]	**Evaluation of immunological and vaccine potential of epsilon toxin mutants of *clostridium perfringens*** K. Gopal*[1], A. Dixit[1], L.C. Garg[2], *[1]Jawaharlal Nehru University, India, [2]National Institute of Immunology, India*
[P1.2.45]	**Biochemical and structural characterisation of streptolysin O of *streptococcus pyogenes* with regard to its oligomerisation, pore formation, and interaction with nad-glycohydrolase** C. Schluepen*, F. Giusti, I. Ferlenghi, I. Margarit, M. Nissum, S. Liberatori, *Novartis Vaccines and Diagnostics Research Center, Italy*
[P1.2.46]	**Strategy for generating safe and effective recombinant dengue vaccine viruses for manufacturing** C.Y-H Huang*[1], J.A. Livengood[2], J.J. Arguello[1,2], B.E. Luy[1], J.L. Stovall[1], K.L. Boroughs[1], et al, *[1]Centers for Diseases Control and Prevention, USA, [2]Inviragen Inc, USA*
[P1.2.47]	**The role of minor antigens in the formation of protective immune response against shigellosis** V. Szijarto*, L. Emody, T. Pal, G. Nagy, *University of Pécs, Hungary*
[P1.2.48]	**Ethylenimine in the preparation of binary inactivated newcastle disease & avian influenza vaccine** I. Khalili*, N. Razmaraii, M.M. Ebrahimi, *[1]Razi Vaccine &Serum Inst., Iran*
[P1.2.49]	**CIM monolith technology: enabling economic vaccines production** C.P. Paril*, *BIA Separations GmbH, Austria*
[P1.2.50]	**Purification platform for influenza viruses** CP Paril*, *BIA Separations GmbH, Austria*
[P1.2.51]	**DNA vaccine purification: increasing productivity and purity of plasmid DNA by CIM monolith chromatograph** C.P. Paril*, M.P. Peterka, F.S. Smreka, A.P. Podgornik, A.S. Strancar, *BIA Separations GmbH, Austria*
Poster Session 2- 13:30 - 15:30 Monday 4th October 2010 P2.1- Vaccine delivery	
[P2.1.01]	**Novel formulation concept for particulate uptake of vaccines via the nasal associated lymphoid tissue** R. Scherließ*, S. Trows, *Christian Albrecht University Kiel, Germany*
[P2.1.02]	**Norovirus P particle, a multifunctional platform for vaccine development** M. Tan*[1,2], X. Jiang[1,2], *[1]Cincinnati Children's Hospital Medical Center, USA, 2University of Cincinnati, USA*

[P2.1.03]	**Antigen-loaded dissolving microneedle array as a novel delivery system for skin vaccination** S. Naito*[1], Y. Ito[2], T. Kiyohara[1], M. Kataoka[1], M. Ochiai[1], K. Takada[2], [1]*National Institute of Infectious Diseases, Japan,* [2]*Kyoto Pharmaceutical University, Japan*
[P2.1.04]	**Viral nucleocapsids as promising vaccine carriers: an optimized antigen-carrier derived from the hepadnaviral nucleocapsid** A. Walker*[1,4], M. Simon[2], D. Milich[3], S. Viazo[4], M. Nassal[1], M. Roggendorf[1], [1]*University Hospital Freiburg, Germany,* [2]*MPI of Immunobiology, Germany,* [3]*Vaccine Research Center, USA,* [4]*University Duisburg-Essen, Germany*
[P2.1.05]	**Towards a Hepatitis B Virus capsid-like particle based anti-tick vaccine** P. Kolb*, M. Nassal, *University Hospital Freiburg, Germany*
[P2.1.06]	**Mucosal administration of acai polysaccharides confers prophylactic and therapeutic protection against pulmonary type A francisella tularensis infection** J.A. Skyberg*[1], M.F. Rollins[1], N.L. Marlenee[2], J.S. Holderness[1], M.A. Jutila[1], D.W. Pascual[1], [1]*Montana State University, USA,* [2]*Colorado State University, USA*
[P2.1.07]	**Development of a stable influenza subunit vaccine powder for pulmonary administration** W.L.J. Hinrichs*[1], V. Saluja[1], J.P. Amorij[1,2], H.W. Frijlink[1], [1]*University of Groningen, Netherlands,* [2]*The Netherlands Vaccine, Netherlands*
[P2.1.08]	**Gold nanoparticles to deliver monovalent and multivalent vaccines** A.E. Gregory*[1], D.M. Estes[2], B.M. Judy[2], K.A. Brown[2], O. Qazi[2], R.W. Titball[1], et al, [1]*University of Exeter, USA,* [2]*University of Texas, USA*
[P2.1.09]	**Transdermal vaccine delivery via laser-generated micropores** S. Kitzmueller[1], R. Weiss[1], M. Hessenberger[1], C. Boehler[2], J. Thalhamer[1], S. Scheiblhofer*[1], [1]*University of Salzburg, Austria,* [2]*Pantec Biosolutions AG, Liechtenstein*
[P2.1.10]	**Optimization of Salmonella enterica serovar choleraesuis as a vaccine vehicle: construction of two DIVA strains** A. Herrero-Gil*, A. Bartolomé, J. Carrión, J.A. Orde, R. de la Fuente, G. Domínguez-Bernal, *University Complutense of Madrid, Spain*
[P2.1.11]	**Defining vaccine vectors capable of driving HIV-1 specific immune responses in immune suppressed, helminth infected populations** L.M. McEwen*[1], C.T. Bui[1], Y. Paterson[2], D.A. Harn[1], [1]*University of Georgia, USA,* [2]*University of Pennsylvania, USA*
[P2.1.12]	**Comparison the prophylactic potential of the nucleoside hydrolase genetic vaccine on visceral leishmaniasis administered in mice through the intramuscular or the intranasal route** L.M. Brandão, F.B. Santos, D. Nico, C.B. Palatnik de Sousa*, *Intituo de Microbiologia, Brazil*
[P2.1.13]	**Impact of immunization routes on hepatitis B virus (HBV) vaccination in humanized transgenic mice** M. Mancini-Bourgine*[1,2], G. Guillen Nieto[3], M.L. Michel[1,2], J.C. Aguilar Rubido[3], [1]*Institut Pasteur, France,* [2]*INSERM, France,* [3]*Center for Genetic Engineering and Biotechnology, Cuba*
[P2.1.14]	**Preclinical development of an inhalable dry powder measles vaccine** R.E. Sievers*[1,2], S.P. Cape[2], D.E. Griffin[3], W-H Lin[3], P.A. Rota[4], M. Papania[4], et al, [1]*Aktiv-Dry, USA,* [2]*University of Colorado, USA,* [3]*Johns Hopkins Bloomberg School of Public Health, USA,* [4]*Centers for Disease Control and Prevention, USA*
[P2.1.16]	**Oral administration of BCG encapsulated in alginate microspheres induces protective immunity in BALB/C mice** F. Dobakhti*[1], T. Naghibi[1], S. Ajdary[2], G. Khalili[2], M. Rafiee-Tehrani[3], [1]*Zanjan University of Medical Sciences, Iran,* [2]*Pasteur Institute of Iran, Iran,*[3]*Tehran University of Medical Sciences, Iran*
[P2.1.17]	**Recombinant suicidal Listeria monocytogenes for oral delivery of vaccines** S. Sinha*, J. A. Jazayeri, C. W. Pouton, *Monash University, Australia*
[P2.1.18]	**A novel multi-antigen DNA-based malaria vaccine candidate delivered by electroporation induces potent antigen-specific immune responses** B. Ferraro, K.T. Talbott, N. Cisper, O. Obeng-Adjei, J. Yan, D.J. Shedlock*, *University of Pennsylvania, USA*
[P2.1.19]	**Construction of recombinant baculoviruses expressing the NS1 protein of WNV** H. Ahmed*[1], S. Aly[2], A. El Sanousi[1], [1]*Cairo University, Egypt,* [2]*Animal Health Research Institute, Egypt*
[P2.1.20]	**Metallochelating nanoliposomes and their application for construction of recombinant vaccines** *J. Turánek[1*], J. Mašek[1], E. Bartheldyová[1], P. T. Knötigová[1], J. Plocková[1], Z. Korvasová[1], M.Škrabalová[1], Š. Koudelka[1], P. Kulich[1], M. Křupka[2] , K. Zachová[2], L. Czerneková[2], O.Strouhal[2], M. Horynová[2], M.Šebela[2], M. Ledvina[3], A.D. Miller[4], M. Raška[1*], [1]Veterinary Research Institute, Czech Republic; [2]Palacky University*

	in Olomouc, Czech Republic; [3]Czech Academy of Sciences, Czech Republic; [4] King's College, UK
P2.2- Vaccine coverage and public health studies	
[P2.2.01]	**The human papillomavirus vaccine coverage in Canary islands.2008** A.J. García Rojas*, D Núñez Gallo, P. García Castellano, D. Trujillo Herrera, J. Solís Romero, *Epidemiology and Prevention Service, Spain*
[P2.2.02]	**Influenza vaccination of future health care workers: a cross sectional study of uptake, Knowledge and attitudes** D.L. Blank, D.M.S. Bodansky, A. Forbes, E.L. Garde*, F. Story, L. Tait, *University of Birmingham, USA*
[P2.2.03]	**Priorities for new immunization programs as perceived by nurses, clinicians and public health officers** V. Gilca*[1,2], E. Dube[1,2], C. Sauvageau[1,2], N. Boulianne[1,2], F. Boucher[1], S. McNeil[1,3], et al, *[1]Quebec Public Health Institute, Canada, [2]Laval University, Canada, [3]Dalhousie University, Canada*
[P2.2.04]	**Public health and economic impact of 13-valent pneumococcal conjugate vaccine (PCV13) in the US** J. Rubin[1], L. McGarry[1], D. Strutton*[2], K. Klugman[3], S. Pelton[4], K. Gilmore[1], et al, *[1]i3 Innovus, USA, [2]Pfizer, USA, [3]Emory University, USA, [4]Boston University Medical Center, USA*
[P2.2.05]	**The vaccination protocol to immigrant children in the canaries** A.J. García Rojas*, D. Nuñez Gallo, P. García Castellano, D. Trujillo Herrera, J. Solis Romero, *Epidemiology and Prevention Service, Spain*
[P2.2.06]	**Vaccination rates of healthcare workers vary according to their occupational group** S. Wicker*, H.F. Rabenau, *University Hospital Frankfurt, Germany*
[P2.2.07]	**Canadian family physicians' and paediatricians' knowledge, attitudes and beliefs regarding rotavirus infection and its prevention by vaccination** E. Dube[1], V. Gilca*[1], C. Sauvageau[1], R. Bradet[1], N. Boulianne[1], F. Boucher[1], J.A. Bettinger[2], S. McNeil[3], I. Gemmill[4], F. Lavoie[1], *[1]Institut national de santé publique du Québec, Canada, [2]Vaccine Evaluation Center, Canada, [3]Canadian Centre for Vaccinology, Canada, [4]KFL&A Public Health Unit, Canada*
[P2.2.08]	**Canadian clinicians opinions on meningococcal infection and ACYW135 vaccines implementation in public immunization program** E. Dube[1], V. Gilca*[1], F. Defay[1], J. Bettinger[2], S. McNeil[3], I. Gemmill[4], *[1]Institut national de santé publique du Québec, Canada, [2]Vaccine Evaluation Center, Canada, [3]Canadian Centre for Vaccinology, Canada, [4]KFL&A Public Health Unit, Canada*
[P2.2.09]	**Practices of administering rotavirus vaccines in lower Austria** M. Paulke-Korinek*[1], M. Kundi[1], A. de Martin[2], G. Eder[3], H. Kollaritsch[1,3], *[1]Medical University Vienna, Austria, [2]Public Health Directory of Lower Austria, Austria, [3]Karl Landsteiner Institute for Infectious Disease Epidemiology and Vaccinology, Austria*
[P2.2.10]	**Parental acceptance of human papillomavirus (HPV) vaccination in Indonesia** L. Jaspers*[1], S. Budiningsih[2], R. Wolterbeek[1], F. Henderson[1], A.A.W. Peters[1], *[1]Leiden University Medical Center, Netherlands, [2]University of Indonesia, Indonesia*
[P2.2.11]	**Whether the expanded programme on immunization in all the world is or not effective? : a systematic review** C.B. Kim*[1], M.Y. Kim[1], S.G. Lee[2], K.Y. Kim[3], K.S. Lee[4], Y.K. Lee[5], *[1]Yonsei University, Korea, [2]Chungnam National University, Korea, [3]Kyungpook National University, Korea [4]Konkuk University, Korea, [5]Korea Centers for Disease Control and Prevention, Korea*
[P2.2.12]	**Predictors of influenza vaccination among community-dwelling elderly in Taiwan** Y.C. Li*[1], C.L. Yang[2], *[1]National Sun Yat-Sen University, Taiwan, [2]Department of Health, Kaohsiung City, Taiwan*
[P2.2.13]	**A comparative study of the perception of physicians according to the participation of 2009 national expanded programme on immunization in Korea** C.B. Kim*[1], M.Y. Kim[1], S.G. Lee[2], K.Y. Kim[3], J.E. Lee[1], Y.K. Lee[4], *[1]Yonsei University, Korea, [2]Chungnam National University, Korea, [3]Kyungpook National University, Korea, [4]Korea Centers for Disease Control and Prevention, Korea*
[P2.2.14]	**Cost-effectiveness of rotavirus vaccination in the netherlands; the results of a consensus model** M.H. Rozenbaum, M.J. Postma*, *University of Groningen, Netherlands*
[P2.2.15]	**Nationwide survey of adolescents' attitudes towards HPV vaccination in Hungary** E. Marek*, T. Dergez, K. Gocze, S.Z. Bozsa, K. Kovacs, P. Gocze, *University of Pécs, Hungary*
[P2.2.16]	**Measles outbreak in a mainly unvaccinated community in germany** H. Roggendorf*[1,4], U. van Treeck[2], A. Mankertz[3], M. Roggendorf[4], *[1]Community Health Centre of Essen, Germany, [2]Institute for Health of Düsseldorf, Germany, [3]Robert Koch-Institute of Berlin, Germany, [4]University*

	Hospital of Essen, Germany
[P2.2.17]	**Herd immunity as a result of model complexity** F. Miksch*[1], N. Popper[1], G. Zauner[1], G. Endel[2], I. Schiller–Frühwirth[2], F. Breitenecker[3], *[1]dwh simulation services, Austria, [2]Main Association of Austrian Social Security Institutions, Austria, [3]Vienna University of Technology, Austria*
[P2.2.18]	**Evaluation of dynamic modelling approaches for vaccination strategies** G. Zauner*[1], N. Popper[1], F. Miksch[1], G. Endel[2], I. Schiller – Frühwirth[2], F. Breitenecker[3], *[1]dwh simulation services, Austria, [2]Main Association of Austrian Social Security Institutions, Austria, [3]Vienna University of Technology, Austria*
[P2.2.19]	**Epidemiology and control of measles in Tianjin China** M.L. Boulton*[1], J.P. Montgomery[1], Y. Zhang[2], J.L. Clayton[1], X. Wang[2], *[1]University of Michigan, USA, [2]Tianjin Centers for Disease Control, China*
[P2.2.20]	**The Israel National Immunization Registry** C. Stein-Zamir*[1,2], G. Zentner[1], E. Tallen-Gozani[1], I. Grotto[1,3], *[1]Ministry of Health, Israel, [2]Hebrew University, Israel, [3]Ben-Gurion University of the Negev, Israel*
[P2.2.21]	**Developing countries influenza vaccine capacity building program issues** A. Mirjalili*, *Razi Vaccine & serum Research Institute, Iran*
[P2.2.22]	**Relationship between acceptability of novel influenza A (H1N1) vaccination and vaccination coverage rate** Y.Y. Kwon[1], H.Y. Cho*[1], Y.K. Lee[1], G.Y. Bae[1], S.G. Lee[2], *[1]Korea Centers for Disease Control and Prevention, Korea, [2]Chungnam Natioanl University, Korea*
[P2.2.23]	**Capacity building for regulatory oversight for vaccine clinical trials in sub-saharan Africa** S. Kwedi*, *CLEAR, Inc, USA*
[P2.2.24]	**Factors influencing BCG immunization since the end of compulsory vaccination in France** L. Rossignol*[1,2], J-P Guthmann[3], S. Kernéis[1,2], I. Aubin-Auger[4], A. Lasserre[1,2], P. Chauvin[1,2], et al, *[1]UPMC Université, France, [2]INSERM, France, [3]Institut de Veille Sanitaire, France, [4]Université Paris Diderot, France*
[P2.2.25]	**Does ethnic origin play a role in the prevalence of influenza and swine flu vaccination amongst renal transplant patients?** M. Williams*, J. Nath, D. van Dellen, R. Dufton, H. Krishnan, N. G. Inston, *Queen Elizabeth Hospital, USA*
[P2.2.26]	**A Measles and Rubella (MR) Catch-up Vaccination Campaign in an Egyptian University: Vaccine Uptake and Knowledge and Attitudes of Students** KM Abd Elaziz*, SM Sabbour, SA Dewedar, *Faculty of Medicine-Ain Shams University, Egypt*
[P2.2.27]	**Mumps vaccination coverage and barriers and factors among children in Japan** Y. Tsuchiya*, K. Machida, *Waseda University, Japan*
	P2.3 - Adjuvants
[P2.3.01]	**Adjuvant formulation for companion animal vaccines** S.D. Deville, L.D. Dupuis, F.B. Bertrand*, J.A. Aucouturier, *SEPPIC, France*
[P2.3.02]	**Cryoprotective effect of trehalose towards antigen and adjuvant in aluminum hydroxide adsorbed tetanus toxoid** V.A. Solanki, N.K. Jain*, I. Roy, *National Institute of Pharmaceutical Education and Research (NIPER), India*
[P2.3.03]	**Lack of correlation between retention of antigen at the injection site and the immune response to aluminium adjuvant-containing vaccines** H. HogenEsch*, S. Noe, M.A. Green, S.L. Hem, *Purdue University, USA*
[P2.3.04]	**The adjuvant effects of the multiple-copy-CpG-plasmid co-administrated with avian influenza vaccine in chickens** L.H. Hung*[1,2], S.L. Li[1], P.C. Tsai[1], C.H. Wang[3], Y.Y. Lien[1], H.C. Chaung[1], *[1]National Pingtung University of Science and Technology, Taiwan, [2]Kaohsiung Biological Product Co. Ltd, Taiwan, [3]National Taiwan University, Taiwan*
[P2.3.05]	**The alteration of toll-like receptor expressions in pigs inoculated with DNA vaccine with CpG adjuvant** H.C. Chaung*[1], S.H. Liu[1], S.L. Li[1], Y.H. Hsieh[1], C.J. Wu[2], W.B. Chung[1], *[1]National Pingtung University of Science and Technology, Taiwan, [2]National Taiwan Ocean University, Taiwan*
[P2.3.06]	**The efficacy of CpG DNA adjuvant in newcastle disease vaccine and avian fowl cholera inactivated bacterin** L.H. Hung*[1,2], S.L. Li[1], H.P. Li[2], C.H. Wang[3], Y.Y. Lien[1], H.C. Chaung[1], *[1]National Pingtung University of Science and Technology, Taiwan, [2]Kaohsiung Biological Product Co. Ltd., Taiwan, [3]National Taiwan University, Taiwan*
[P2.3.07]	**Salmonella flagellins exhibit immunostimulatory effects on avian cells** L.T. Cheng*[1], P.C. Tsai[1], I. Skountzou[2], B. Wang[2], R.W. Compans[2], Y.Y. Lien[1], *[1]GraduNational Pingtung University of Science and Technology, Taiwan, [2]Emory University of School of Medicine, USA*

[P2.3.08]	**Association between chitosan-based nanoparticles and CpGODN as adjuvant for mucosal hepatitis B vaccine** F. Lebre, D. Bento, O. Borges*, *University of Coimbra, Portugal*
[P2.3.09]	**Evaluation of the VP22 gene adjuvant for enhancement of a DNA vaccine against inhibin in mice** L. Han*, Y.H. Zhen, A.X. Liang, Lei Sang, L.G. Yang, A.Z. Guo, *Huazhong Agricultural University, China*
[P2.3.10]	**An improved recombinant flagellin with partial deletion of the hypervariable domain as mucosal adjuvant** H.M. Yan*, F. Liu, J.Y. Yang, *Chinese Academy of Sciences, China*
[P2.3.11]	**CpG oligodeoxynucleotides are effective adjuvants for inactivated vaccines in chickens** Y.Y Lien*, L.T. Cheng, H.C. Chaung, *National Pingtung University of Science and Technology, Taiwan*
[P2.3.12]	**IC31®, a potent parenteral and mucosal vaccine adjuvant that stimulates the induction of humoral and type 1 T cell responses** B. Wizel*, K. Riedl, D. Zimmel, D. Aschenbrenner, *Intercell AG, Austria*
[P2.3.13]	**Cross-presentation of internal antigens from whole inactivated influenza virus: role of viral membrane fusion activity and TLR7-mediated activation of dendritic cells** N. Budimir*, T. Meijerhof, J. Wilschut, A. Huckriede, A. de Haan, *UMC Groningen, Netherlands*
[P2.3.14]	**PLGA DNAhsp65 increases the immune response during the treatment of Paracoccidioidomycosis (PCM) in murine model** A.M. Ribeiro*[1], A.C.O. Souza[1], A.C. Amaral[1,2], M.S. Jeronimo[1], I.M. Siqueira[1], F.P. Carneiro[1], *[1]University of Brasilia, Brazil, [2]University of Sao Paulo, Brazil*
[P2.3.15]	**Nitric oxide adjuvant effects helping to combat Paracoccidioides brasiliensis fungal infection** A.H.T. Pacheco[1], A.C. Amaral[1], A.M. Ribeiro*[1], A. Jacó[1,2], P. Albuquerque[1], E.R. Machado[1], *[1]University of Brasilia, Brazil, [2]Catholic University of Brasilia, Brazil*
[P2.3.16]	**Ginseng: the friendly boosting in the immune response aganist *Pasteurella multocida* toxin (PMT)** J. Montané, D. Torrents, M.C. Moreno*, M. Sitjà, *HIPRA, Spain*
[P2.3.17]	**Immunization with liposome-based adjuvant CAF01 elicits significant protective immunity against *helicobacter pylori* in mice** I. Hitzler*[1], E. Agger[2], A. Müller[1], *[1]University of Zurich, Switzerland, [2]Statens Serum Institute, Denmark*
[P2.3.18]	**Modification of adenovirus vaccine vector-induced immune responses by expression of a toll like receptor-pathway molecule** C.S. Rollier*, A. Spencer, M.G. Cottingham, K. Colbjorn-Larsen, D. Wyllie, A.V. Hill, *Oxford University, USA*
[P2.3.19]	**Helminth antigens as adjuvants for HIV-1 vaccines** C.T. Bui[1], L.M. McEwen[1], Y. Paterson[2], D.A. Harn*[1], *[1]University of Georgia, USA, [2]University of Pennsylvania, USA*
[P2.3.20]	**The extracellular matrix as an immunomodulator** R.D. Ritchie*[1], P.J. Hall[1], M.C. Hiles[2], M.A. Suckow[3], *[1]Bioscience Vaccines, Inc., USA, [2]Cook Biotech, Inc., USA, [3]University of Notre Dame, USA*
[P2.3.21]	**Immunogenicity of unadjuvanted and AF03-adjuvanted A/H1N1/California/07/2009 influenza vaccines in naïve and influenza-primed mice** F. Piras-Douce*, C. Caillet, M-C Bernard, A. De Monfort, F. Vogel, I. Kusters, sanofi Pasteur, France
[P2.3.22]	**The MyD88 pathway is critical for innate and adaptive immune responses to poly(γ-glutamic acid) nanoparticles in mice** T. Uto[1,3*], T. Akagi[2,3], M. Akashi[2,3], and M. Baba[1,3] *[1]Kagoshima University, Japan; [2]Osaka University, Japan, and [3]JST-CREST, Japan*
P2.4 - Vaccine responses and safety in humansds	
[P2.4.01]	**Immunization against viral hepatitis B among prisoners in Iran: a comparison between accelerated vs. classic vaccination protocols** A.A. Zolghadr Asli[2], M. Moghadami[1], N. Zamiri[1], N. Maharlouei*[1], S.T. Heydari[1], K.B. Lankarani[1], *[1]Shiraz University of Medical Sciences, Ira, [2]Islamic Azad University, Iran*
[P2.4.02]	**Post-primary vaccination immune response and immune memory persistence after vaccinating preadolescents with 2 or 3 doses of different hepatitis B vaccines** V. Gilca*[1,2], G. De Serres[1,2], N. Boulianne[1,2], D. Murphy[3], R. Masse[4], G. Trudeau[5], *[1]Quebec Public Health Institute, Canada, [2]Laval University, Canada, [3]Quebec Public Health laboratory, Canada, [4]Montreal University, Canada, [5]Quebec City Public Health Unit, Canada*
[P2.4.03]	**Preliminary safety and immunogenicity data of two doses of Twinrix and Gardasil co-administered or administered separately according to an extended schedule**

	V. Gilca*[1,2], C. Sauvageau[1,2], M. Dionne[1,2], N. Boulianne[1,2], D. Murphy[1], G. De Serres[1,2], *[1]Quebec Public Health Institute, Canada, [2]Laval University Research Hospital Center, Canada*
[P2.4.04]	**The role of dissimilarity between circulating and vaccine virus genotypes and waning immunity to mumps outbreaks in highly vaccinated populations** S. Rubin*[1], C. Sauder[1], C. Zhang[1], W. Bellini[2], P. Duprex[3], *[1]FDA, USA, [2]Centers for Disease Control and Prevention, USA, [3]Queen's University, USA*
[P2.4.05]	**Safety of zoster vaccine in adults 50 years and older** H.F. Tseng*[1], A. Liu[1], L.S. Sy[1], B. Fireman[1], E. Weintraub[2], J. Baggs[2], et al, *[1]Kaiser Permanente, USA, [2]HealthPartners Research Foundation, USA*
[P2.4.06]	**Effectiveness of the seasonal 2008-2009, 2009-2010 and pandemic vaccine, to prevent influenza hospitalizations during the autumn 2009 influenza pandemic wave in Castellon, Spain. Test-negative, hospital based, case control study** J. Puig-Barbera*[1,2], A. Arnedo-Pena[1], F. Pardo-Serrano[3], M.D. Tirado-Balaguer[3], E. Silvestre-Silvestre[1], C. Calvo-Mas[1], L. Safont-Adsuara[1], M. Ruíz-García[1], S. Pérez-Vilar[1], *[1]Centre Salud Pública Castellón, Spain, [2]Centro Superior de Investigación en Salud Pública (CSISP), Spain, [3]Hospital General de Castellón, Spain*
[P2.4.07]	**Study of congenital rubella syndrome (CRS) after vaccination against rubella in Iran** M. Esghaei*, H.R. Monavari, A. Kargar, *Iran University of Medical Sciences, Iran*
[P2.4.08]	**Influenza vaccination among elderly diabetic patients: a five-year population study in Taiwan** Y.C. Li*, P.J. Pan, *National Sun Yat-Sen University, Taiwan*
[P2.4.09]	**An unmasking phenomenon in vaccine safety studies of adolescents and young adults** S.J. Jacobsen*, C.R. Chao, L.S. Sy, J.M. Slezak, K. Deosaransingh, B.K. Ackerson, et al, *Kaiser Permanente Southern and Northern California,*
[P2.4.10]	**Longterm immunity after basal immunization for hepatitis B** G. Kuli-Lito*[1], S. Lito[2], Z. Ylli[1], G. Sulcebe[1], *[1]University Hospitla center Mother Teresa, Albania, [2]Medical Center of Sofia, Bulgaria*
[P2.4.11]	**Comparison of two recombinant hepatitis B vaccines** H. Nikoueinejad*, G. Ghorbani, *Baqyiatallah University of Medical Sciences, Iran*
[P2.4.13]	**Therapeutic peptide vaccination against chronic Hepatitis C Virus infection: a decade from discovery to proof-of-concept in patients** C. Klade*[1], A. von Gabain[1], M.P. Manns[2], *[1]Intercell AG, Austria, [2]Hannover Medical School, Germany*
[P2.4.14]	**Immune response after three and four doses of hepatitis B vaccine concomitant or combined to DTPw-Hib: results of a randomized, non-inferiority, multicenter study in Brazil** T.G. Noronha[1,2], M.L.S. Maia[1], J.C. Moraes[3], L.C.A. Alencar[4], R.M. Martins[1], L.A.B. Camacho*[1], *[1]FIOCRUZ, Brazil, [2]Secretaria Municipal de Saúde do Rio de Janeiro, Brazil, [3]Faculdade de Ciências Médicas da Santa Casa de São Paulo, Brazil, [4]Instituto Materno-Infantil de Pernambuco, Brazil*
[P2.4.15]	**Reactogenicity of pandemic influenza A(H1N1) vaccination (Pandemrix) in the Netherlands** N.A.T. van der Maas*, T.A.J. Phaff, C. Wesselo, M. van der Velde, B. Oostvogels,, P.E. Vermeer-de Bondt, *National Institute for Public Health and the Environment, Netherlands*
[P2.4.16]	**Immediate adverse events following pandemic influenza A(H1N1) vaccination (Pandemrix) in the Netherlands** P.E. Vermeer-de Bondt*, N.A.T. van der Maas, T.A.J. Phaff, C. Wesselo, I. Zonnenberg-Hoff, B. Oostvogels, *National Institute for Public Health and the Environment, Netherlands*
[P2.4.17]	**Comparing reactogenicity of seasonal and pandemic influenza A(H1N1) vaccination (Focetria) among people ≥ 60 years in the Netherlands** N.A.T. van der Maas*, M. van der Velde, T.A.J. Phaff, C. Wesselo, B. Oostvogels, P.E. Vermeer-de Bondt, *National Institute for Public Health and the Environment, Netherlands*
[P2.4.18]	**To study optimum needle gauge for minimizing local adverse reactions following DPT and hepatitis-B vaccines** N. Nirupam*, H. Pemde, A. Dutta, *Lady Hardinge Medical College, India*
[P2.4.19]	**Are transplant patients getting their 'jabs'? - the prevelance of influenza and swine flu vaccination amongst renal transplant patients** M. Williams*, J. Nath, D. van Dellen, R. Dufton, H. Krishnan, N. G. Inston, *Queen Elizabeth Hospital, USA*
[P2.4.20]	**Estimating influenza vaccine effectiveness among adults hospitalized in Lyon University hospital (2004-2009)** S. Amour*[1], N. Voirin[1,2], C. Régis[1], S. Pires-Cronenberger[2], B. Lina[2], P. Vanhems[1,2], *[1]Hôpital Edouard Herriot, France, [2]Université Lyon 1, France*

[P2.4.21]	**Biological variation in mRNA Seq data: Life in the real world** A. L. Oberg[1*], D. E. Grill[1], B. M. Bot[1], G. A. Poland[2,3], T. M. Therneau[1, 1]*Department of Health Sciences Research,* [2]*Mayo Vaccine Research Group and* [3]*Program in Translational Immunovirology and Biodefense, Mayo Clinic, USA*
Poster Session 3- 12:35-14:00 Tuesday 5th October 2010 **P3.1 - Analysis of antibody responses**	
[P3.1.01]	**Protective antibody titer for persons vaccinated against tick-borne encephalitis virus** G.N. Leonova*, E.V. Pavlenko, O.S. Maistrovskaya, E.V. Chausov, *Research Institute of Epidemiology and Microbiology, SB RAMS, Russian Federation*
[P3.1.02]	**Antibody titers to tetanus, varicella, rubella and rubeolla in an HIV infected outpatient population** K. Alagappan*, J. McGowan, D. DeClaro, K. Munjal, S. Naderi, L. Houdek, *North Shore-LIJ Health Sytem, USA*
[P3.1.03]	**Dengue-2 DNA vaccine (encoding prM and E) with human codon optimization induced neutralizing antibody in mice** C. Ketloy*[1], P. Keelapang[2], N. Sittisombut[2], E. Prompetchara[1], K. Ruxrungtham[1], [1]*Chulalongkorn University, Thailand,* [2]*Chiangmai University, Thailand*
[P3.1.04]	**Immunization of pregnant african green monkeys with flagellin-F1-V results in high antigen-specific IgG in offspring** S.E. Ervin*, A.H. Graaf, S.B. Mizel, *Wake Forest Universty, USA*
[P3.1.05]	**Cross-reactivity of antisera raised against different PspC molecules against pneumococcal isolates from the University Hospital of the University of São Paulo (Brazil)** A. Moreno*[1], D. Ferreira[2], F. Pimenta[3], S. Santos[4], M. Martinez[4], E. Miyaji[1], [1]*Instituto Butantan, Brazil,* [2]*Liverpool School of Tropical Medicine, USA,* [3]*Centers for Disease Control and Prevention, USA,* [4]*universidade de São Paulo, Brazil*
[P3.1.06]	**Identification of neutralizing epitopes in different domains of anthrax toxin protective antigen** J.J. Xu*, J. Zhang, D.Y. Dong, W. Chen, *Beijing Institute of Microbiology and Epidemiology, China*
[P3.1.08]	**Pediatric measles vaccine expressing a dengue tetravalent antigen elicits neutralizing antibodies against all four dengue viruses** F. Tangy*[1], C. Ruffié[1], V. Najburg[1], M-P Frenkiel[1], A. Habel[2], P. Desprès[1], [1]*Institut Pasteur, CNRS, France,* [2]*Themis BioScience, Austria*
[P3.1.09]	**Induction of cross-reactive antibodies to 2009 pandemic H1N1 influenza virus (pH1N1) after seasonal vaccination (winters 2003/04 and 2007/08)** A.M. Iorio*, B. Camilloni, E. Lepri, M. Neri, M. Basileo, A. Azzi, *University of Perugia, Italy*
[P3.1.10]	**PreS1-specific humoral immune responses protect woodchucks from WHV-infection** A. Schumann*, I. Schulte, M. Fiedler, T. Hitziger, A. Kosinska, M. Roggendorf, *University of Essen, Germany*
[P3.1.11]	**Pseudoparticle neutralization is a reliable assay to measure immunity to H5Ni Influenza viruses** B. Capecchi*[1], I. Alberini[1], L. Eudey[2], A. Bonci[1], N.J. Temperton[3], G. Galli[1], et al, [1]*Novartis Vaccines and Diagnostics, Italy,* [2]*California States University East Bay, USA,* [3]*University College London, USA*
[P3.1.12]	**Human IgG subclasses: in vitro neutralization of and in vivo protection against west nile virus** Y. Hofmeister*, C.B. Planitzer, M.R. Farcet, T.R. Kreil, *Baxter BioScience, Austria*
[P3.1.13]	**Selection of a family 1 PspA capable of inducing broad-ranging cross-reactivity by complement deposition and opsonophagocytosis by murine peritoneal cells** C. Goulart[1], M. Darrieux*[2], M.C. Brandileone[3], A.L.S.S. Andrade[4], L.C.C. Leite[1], F.C. Pimenta[5], [1]*Instituto Butantan, Brazil,* [2]*Universidade São Francisco, Brazil,* [3]*Instituto Adolfo Lutz, Brazil,* [4]*Universidade Federal de Goiás, Brazil,* [5]*Centers for Disease Control and Prevention, USA*
[P3.1.14]	**TRP47 and TRP120 Epitope dpecific sntibodies are protective against Ehrlichia chaffeensis infection** J. A. Kuriakose, X.F. Zhang, T. Luo and J. W. McBride*, *University of Texas Medical Branch, USA*
P3.2 - Analysis of cell mediated immune responses	
[P3.2.01]	**Induction of antigen specific T regulatory cells to suppress inflammatory responses by tolerogenic vaccination** B. Wang*[1,2], J. Jin[1], Y. Kang[1], Y. Wen[2], [1]*China Agricultural University, China,* [2]*Fudan University, China*
[P3.2.03]	**New trend for oral vaccine development: control of vitamin B9-mediated regulatory T cells to enhance the vaccine antigen-specific IgA antibody responses in the intestine** J. Kunisawa*, I. Ishikawa, E. Hashimoto, H. Kiyono, *University of Tokyo, Japan*
[P3.2.04]	**Characterization of the cellular immune responses elicited by a combined vaccine composed of Pneumococcal Surface Protein A (PspA) and the whole cell pertussis** P.L. Ho, D. M. Ferreira, A. T. Moreno, F.A. Lima, E. N. Miyaji, M. L. S. Oliveira*, [1]*Instituto Butantan, Brazil*

[P3.2.05]	**Characterization of the HBs-specific cellular immune response in seven patients from the ANRS HB03 VIHVAC-B vaccine trial and comparison to the vaccine humoral immunity** M Andrieu*[1], O Launay[1], K Labroquère[1], AR Rosenberg[1], V Carrat[2], M-L Michel[2], *[1]Univ Paris Descartes, France, [2]Inst Pasteur and INSERM, France*
[P3.2.06]	**Experimental intranasal colonization of the human nasopharynx induces lung mucosal antigen specific T cell responses: implications for vaccine design** A.K.A. Wright*[1,2], K. Jambo[2], J. Gritzfeld[2], L. Roche[1], S. El-Batrawy[1], S.B. Gordon[2], *[1]Royal Liverpool and Broadgreen Hospital, USA, [2]Liverpool School of Tropical Medicine, USA*
[P3.2.07]	**Different T epitope regions of P. falciparum MSP1-33 critically influences the responsiveness, magnitude and auality of Anti-MSP1-19 antibodies** K. Pusic[1], C. Aniya[2], S. Lee[1], J. Senda[2], D. Clements[2], G. Hui*[1], *[1]University of Hawaii, USA, [2]Hawaii Biotech Inc., USA*
[P3.2.08]	**CD8+ T cell response and anti-tumor effects generated by a DNA vaccine encoding HPV-16 E5, E6 and E7 proteins fused to HSV-1 gD** M.O. Diniz*, L.C.S. Ferreira, *University of Sao Paulo, Brazil*
[P3.2.09]	**Codon-optimization of the hemagglutinin gene from the novel swine origin H1N1 influenza virus has differential effects on CD4+ T cell responses and immune effector mechanisms following DNA electroporation in mice** M. Tenbusch*[1], T. Grunwald[1], T. Niezold[1], D Hannaman[2], S Norley[3] , K Überla[1,] *[1]Ruhr-Universitaet, Germany, [2]Ichor Medical Systems, Inc., USA, [3]Robert Koch-Institut, Germany*
[P3.2.10]	**Adaptation of the hepatitis C virus to CD8 T cell immune pressure at the population level** M. Ruhl[1], T. Knuschke[1], K. Schewior[1], J. Nattermann[2], D. Hoffmann[1], J. Timm*[1], *[1]University of Duisburg-Essen, Germany, [2]University of Bonn, Germany*
[P3.2.11]	**Importance of regulatory T-cell epitopes in vaccine delivery vehicle design** L. Cousens[1], C. Weber[2], B.A. Martin[1], A. Reslow[3], J.E. Buhlmann[1], W.D. Martin[1], L. Moise[1,3], A.S. De Groot*[1,3], *[1]EpiVax, Inc., USA, [2]University of Freiburg, Germany, [3]University of Rhode Island, USA*
[P3.2.12]	**Epitope-specificity and effector function analysis of T cell responses elicited by a novel single-cycle West Nile virus vaccine candidate** G.N. Milligan*[1], E.R. Winkelmann[1], M.H. Nelson[1], P.W. Mason[2], N. Bourne[1], *[1]University of Texas Medical Branch, USA, [2]Novartis Vaccine and Diagnostics, USA*
[P3.2.13]	**Activation of antigen-specific t cells using different yeast genera as protein delivery vectors** S.B. Bazan*[1], B. Walch[1], T. Breinig[3], S. Schenk[2], S. Geginat[2], M. J. Schmitt[1], F. Breinig[1], *[1]Saarland University, Germany, [2]Mannheim of the University Heidelberg, Germany, [3]Saarland University Hospital, Germany*
P3.3 – Animal vaccines and animal models	
[P3.3.01]	**Perspective of using the recombinant DNA-technology to control the spread of the African swine fever** N. Vlasova*, Vl. Balyshev, A. Kazakova, *All Russia Research Institute for Veterinary Virology and Microbiology, Russian Federation*
[P3.3.02]	**Importance of antirabies revaccination for adequate antirabies protection in bovine newborns** O.A. Filho[1], J. Megid*[1], L. Geronutti[1], J. Ratti Jr[1], A.P.A.G. Kataoka[2], L.F.A. Martorelli[2], *[1]Universidade Estadual Paulista (UNESP), Brazil, [2]Zoonosis Control Center, Brazil*
[P3.3.03]	**Vaccinal immune response and interference of colostral antibodies in calves vaccinated at 2, 4 and 6 month of age born from revaccinated females** O. Filho[1], J. Megid*[1], L. Geronutti[1], M.F.A Almeida[2], A.P.A.G Kataoka[2], L.F.A. Martorelli[2], *[1]Universidade Estadual Paulista (UNESP), Brazil, [2]Zoonosis Control Center, Brazil*
[P3.3.04]	**Immunization of pregnant sows with a novel virulence gene deleted live Salmonella vaccine and protection of their suckling piglets against salmonellosis** J.H. Lee*, J. Hur, *Chonbuk National University, Korea*
[P3.3.05]	**A novel DNA vaccine for promoting the growth of animals** A.X. Liang*, L. Han, A.Z. Guo, S.J. Zhang, L.G. Yang, *HuaZhong agricultural university, China*
[P3.3.06]	**Experimental vaccine used to protect infant mice model against enterotoxigenic Escherichia coli O8, O20 and O101 in Iran** Y. Tahamtan*[1], Z. Shams[2], M.H. Hosseini[1], *[1]Razi Vaccine and Serum Research Institute, Iran [2]Azad University of Jahrom, Iran*
[P3.3.07]	**Protective efficacy and the immune response induced by whole cell vaccine candidate in animal models of tuberculosis** S. Bhaskar*[1], A. Gupta[1], N. Geetha[1], P. Upadhyay[1], V.M. Katoch[2], U.D. Gupta[2], *[1]National Institute of*

	Immunology, India,[2]National JALMA Institute of Leprosy & Other Mycobacterial Diseases, India
[P3.3.08]	**Reduction of excretion and colonisation of internal organs with virulent salmonella strains after oral immunisation of chicken with a live combined salmonella enteritidis and salmonella typhimurium vaccine** N. Desloges*, I. Schröder, R. Weber, *Lohmann Animal Health GmbH & Co. KG, Germany*
[P3.3.09]	**DNAhsp65 within liposomal formulation increases the immune response during the treatment of Paracoccidioidomycosis in murine model and reduces both the number of doses and the amount of DNA used in therapy** A.M. Ribeiro*[1], A.C.O. Souza[1], A.C. Amaral[1,2], M.S. Jeronimo[1], I.M. Siqueira[1], F.P. Carneiro[1], *[1]University of Brasília, Brazil,[2]University of São Paulo, Brazil*
[P3.3.10]	**Vaccination with a streptomycin-resistant strain of Salmonella enterica serovar enteritidis lack pefA and spvC genes reduces cecal colonization and organ invasion in SPF chicks** L. Revolledo, A.J.P. Ferreira, M. D. P. V. Ruibal*, *University of São Paulo, Brazil*
[P3.3.11]	**Theileriosis, vaccination strategies for theileria parva causing east coast fever (ECF)** I. De Goeyse*[1,2], D. Geysen[2], M.E. Janssens[2], Y. Guisez[1], *[1]University of Antwerp, Belgium,[2]Institute of Tropical Medicine, Belgium*
[P3.3.12]	**Pathogenesis study of enterovirus 71 infection in rhesus monkeys** Y. Zhang, W. Cui, L.D. Liu, J.J. Wang, H.L. Zhao, Q.H. Li*, *Chinese Academy of Medicine Science, China*
[P3.3.13]	**Partial immunoprotection elicited in hamsters by leptospiral proteins against lethal challenge with Leptospira interrogans** A.L. Nascimento*[1], M.V. Atzingen[1], A.P. Gonçales[2], Z.M. de Morais[2], E.R. Araujo[2], T. de Brito[2], *[1]Instituto Butantan, Brazil,[2]Universidade de Sao Paulo, Brazil*
[P3.3.14]	**Immunisation with detoxified pneumolysin (PdB) protects against upper respiratory tract colonisation with *Streptococcus pneumoniae*** S M Smeaton*, A Kadioglu, P W Andrew, *University of Leicester, UK*
[P3.3.15]	**Immunization of mice with *lactobacillus casei* expressing a beta-intimin fragment reduces intestinal colonization by citrobacter rodentium** P.C.D. Ferreira*[1], L. Eckmann[2], P.L. Ho[1], M.L.S. Oliveira[1], *[1]Instituto Butantan, Brazil,[2]University of California San Diego, USA*
[P3.3.16]	**Role of the SPA, SPR, and SPC domains of TcSP protein from Trypanosoma cruzi in the immune response of the acute phase of Chagas disease in the murine model** B. Salgado*, L. Baylón, P. Talamás, J.L. Rosales, *CINVESTAV, Mexico*
[P3.3.17]	**Efforts to make vaccine against Hyalomma anatolicum anatolicum tick species** A. Mirjalili*, S.M. Ebrahimi, *Razi Vaccine & Serum Research Institute, Iran*
[P3.3.18]	**Bordetella bronchiseptica aroA mutant as a live vaccine vehicle for heterologous porcine circovirus type 2 major capsid protein expression** J.Y. Seo, C.H. Son, J.I. Lee, T.J. Kim*, *Chonnam National University, Korea*
[P3.3.19]	**A novel multi-antigen DNA-based FMD vaccine candidate delivered by electroporation induces robust antigen-specific humoral and cellular immune responses** B. Ferraro, K.T. Talbott, N. Cisper, J. Yan, L. Phillipson-Weiner, D.J. Shedlock*, *University of Pennsylvania, USA*
P3.4 – Anti-cancer vaccines and other non-traditional vaccines	
[P3.4.01]	**Lambda nanoparticle-based vaccine protect tumor mice against HPV16-associated cancer** A. Ghaemi*[1], H. Soleimanjahi[2], P. Gill[2], S. Razeghi[3], A.R. Shoahassani[4], K. Hamdi[4], *[1]University of Medical Sciences and Health Care, Iran [2]Tarbiat Modares University, Iran [3]Iran university of medical sciences, Iran [4]Fars Science and Research Branch of Azad University, Iran*
[P3.4.02]	**Lambda nanoparticle-based vaccine protect tumor mice against HPV16-associated cancer** A. Ghaemi*[1], H. Soleimanjahi[2], P. Gill[2], S. Razeghi[2], A.R. Shoahassani[3], K. Hamdi5[3], *[1]Golestan University of Medical Sciences and Health Care, Iran [2]Tarbiat Modares University, Tehran, Iran [3]Fars Science and Research Branch of Azad University, Iran*
[P3.4.03]	**Hypoallergenic DNA vaccine against HDM allergy** P. Pulsawat*[1], S. Piboonpocanun[2], S. Sirivichayakul[1], S. Masaru[3], A. Jacquet[1], K. Ruxrungtham[1], *[1]Chulalongkorn University, Thailand,[2]Mahidol University, Thailand,[3]Yokohama City University, Japan*
[P3.4.04]	**Streptincor a vaccine for preventing rheumatic fever an autoimmune disease: structural design and biological properties** L. Guilherme*[1,2], E. Postol[1,2], T. Guerino[1,2], L. Demarchi[1], M.P.A. Sandoval[4,5], F.M. Ferreira[1,2], *[1]Heart Institute (InCor), Brazil,[2]National Institute of Science and Technology, Brazil,[3]Clinical Immunology and Allergy, Brazil,*

	[4]Fundacion Instituto de Immnologia de Colombia (FIDIC), Colombia, [5]Universidad del Rosario, Colombia, [6]Universidad Nacional de Colombia, Colombia
[P3.4.05]	**Sperm Protein 17: Is It a Useful Target Antigen in Human Pituitary Adenomas?** F Grizzi*[1], A Di Ieva[2], S Di Biccari[1], G Ceva-Grimaldi[1], P Colombo[1], M Tschabitscher[1], *[1]IRCCS Istituto Clinico Humanitas, Italy, [2]University of Vienna, Austria*
[P3.4.06]	**Selective targeting of Bet v 1a to specialized cellular compartments affects prophylactic efficacy of anti-allergic DNA vaccines** E. Weinberger*, E. Roesler, S. Scheiblhofer, J. Thalhamer, R. Weiss, *University of Salzburg, Austria*
[P3.4.07]	**VGX-3100: induction of cellular and humoral responses in post-LEEP CIN 2/3 following immunotherapy with HPV16 & 18 SynCon™ DNA vaccines via electroporation** N.Y. Sardesai*[1], J. Yan[2], X. Shen[1], M. Giffear[1], J. Lee[1], A.S. Khan[1], *[1]Inovio Pharmaceuticals, USA, [2]University of Pennsylvania, USA*
[P3.4.08]	**Dendritic cells transfected with Her2-encoding RNA replicons induce cross-priming and protect mice against tumor challenge** B. Edlich[1,2], L. Hogdal[2], B. Rehermann[2], S-E Behrens*[1], *[1]MicobialUniversity Halle-Wittenberg, Germany, [2]NIDDK, NIH, USA*
[P1.2.02]	**Liposomal and PLGA formulations containing DNAhsp65 increase the immune response during the treatment of infected mice with the fungus paracoccdioides brasiliensis** A.M. Ribeiro*[1], A.C.O. Souza[1], A.C. Amaral[1], N.M. Vasconcelos[1], M.S. Jeronimo[1], Y.K.M. Nobrega[1], F.P. Carneiro[1], L.H. Faccioli[2], F. Figueiredo[1], M.S.S. Felipe[1], C.L. Silva[2,3], A.L. Bocca[1], *[1]University of Brasilia, Brazil, [2]University of São Paulo, Brazil, [3]Farmacore Biotecnology Ltd, Brazil*