

# Fourth Annual Conference

## ABSTRACTS OF SUBMITTED POSTER PRESENTATIONS

**P25** The use of complex surface antigens of Salmonella, Escherichia, Proteus and Pseudomonas in indirect hemagglutination assay.  
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It was investigated four complex surface antigens (CSA) of gramnegative bacteria that now are actual agent of serious infections diseases, including nosocomial, for estimation their utility for detection of specific antibodies. CSA of Salmonella consisted from 4 M and one Vi antigens, of Escherichia - from 7 K-antigens, of P.aeruginosa - from 5 slime antigens and of Proteus - from 2 K-antigens. Sheep erythrocytes were treated by formaldehyde according to J.C.Feeley (1958), thereat the sensibilizing dose of every individual antigens was 250 mkg, sensibilization of erythrocytes was conducted according to S.V.Boyden (1958). Final preparats included 8% of erythrocytes; they were conserved by sodium azide and saved at 2-4°C. The immune sera from rabbits that were immunized by CSA in indirect hemagglutination assay (IHA) showed the levels: Salmonella - 1:2560, Escherichia - 1:2560, Pseudomonas - 1:1280, Proteus - 1:2560. Levels of cross reactions with heterological CSA were much lower than with homological preparates of the same genera. Thus levels of cross reactivity between Pseudomonas and Proteus equaled to 1:40 - 1:80, Salmonella and E.coli 1:40, Pseudomonas and E.coli (Salmonella) - 1:20.

For IHA of sera from patients with pseudomonas sepsis, acute and chronic non pseudomonas (bone purulent) infections we obtained the average geometrical of titers 1:196,98, 1:30,15 and 1:10,3, accordingly. Sera of patients with pseudomonas sepsis in assay of agglutination with alive autocultures gave the titers 1:280.

Results of IHA show that constructed CSA may be used for identification of antibodies against surface antigens of Salmonella, Escherichia, Proteus and Pseudomonas and selection of blood samples with high titers of antibodies.

**P27** The defense of immune sera to complex surface antigens of Escherichia, Salmonella, Pseudomonas and Proteus under experimental infection.  
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It was studied the protective action of immune sera from rabbits, that were immunized by liposomal form of complex surface antigen preparates with added immunomodulators, against infection by homo- and heterological strains of bacteria. White mouses of 19-20 g were infected intraperitoneally by 18-hour cultures of bacteria. It were used strains of bacteria, surface antigens of which were included into complex preparations: E.coli K1, S.typhimurium M, P.aeruginosa O2, P.mirabilis 708. Strains of bacteria: E.coli K6, S.minnesota M, P.aeruginosa O14, P.mirabilis 610, surface antigens of which were not included into complex preparations also were used. Three fold, 1, 24 and 48 hours after infection, the mouses were injected hypodermic by 0.25 ml appropriate immune serum. Immune serum with titer of 1:2560 to complex antigenic prepare "Escherichia" defended 100% of mouses from death under introducing of four LD50 of E.coli K1 or 2 LD50 of E.coli K6. Immune serum with the same titer to prepare "Salmonella" defended mouses injected by five doses of LD50 of S.typhimurium M or 3 LD50 of S.minnesota M. Sera to "Pseudomonas" 1:1280 - against 6 LD50 of P.aeruginosa O2 or 3 LD50 of P.aeruginosa O14, to "Proteus" 1:1280 - against four LD50 of P.mirabilis 708 or 4 LD50 P.mirabilis 610. Differences between test and control experiments were probable with 99.9% probability.

Thus in experiments it was shown that immune sera to surface polysaccharide antigens of bacteria genera of Escherichia, Salmonella, Pseudomonas and Proteus possessed the prominent protective effect against infection of homologous strains of these genera and may be assumed to have the same potential in treatment of infectious diseases in human also.

**P26** Development of complex surface antigens of Salmonella, Escherichia, Proteus and Pseudomonas.  
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It was investigated the surface antigens of gramnegative bacteria of Salmonella, Escherichia, Proteus and Pseudomonas, which now are actual as cause of serious infections. The aim of researching was to construct the complex antigenic preparations on the base of surface antigens of bacteria and to study theirs basic characteristics. Antigens (K, M, Vi and of slime) were obtained by J.E.Scott (1960), D.Hungarar (1967), W.Nimmich (1968). Toxicity of obtained preparations was searched in vitro on cell cultures (M.R.Barer, 1986; P.G.Kostyuk 1981), in vivo - by estimation of LD50 for white mouses using probit analysis of lethality curves. Antigens were searched also biochemically and in biotests.

From the strains possessed surface antigens it was obtained 47 preparates. After searching of toxic action of separate antigens in vitro on Vero, HeLa and neurons cells cultures it was selected 19 nontoxic samples. Results obtained in biochemical investigations of them indicated that they were polysaccharide from 6 - 9 kDa to 300 kDa with small impurities of nucleic acids. These samples were grouped in four complex preparates - by one for every genera. They were combined in such way to include mainly K-antigenic specificity of most often meted bacteria type of these genera under serious and nosocomial infections. Quantitative determination of complex preparates toxicity revealed very low antigen toxicity - LD50 from 2.21 to 3.26 mg. Because of low immunogenicity of K-antigens for rabbits we needed to found and tested by factor analysis the method of serum obtaining with high titers of antibodies by implementation of these preparations in liposomal form with adding of immunomodulators. Data of investigations open the possibility of creation of vaccine preparates.

**P28** A STANDARD NOMENCLATURE FOR VACCINE ABBREVIATION  
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**Introduction.** Biotechnology promises many new immunogens. A system of abbreviations for existing and future vaccines was developed to facilitate accuracy, consistency, and convenience -- and to reduce errors and ambiguity -- in medical record-keeping, scientific communications, and vaccine labeling. It builds upon Perry & Parish (*BMJ* 1956;2:38-39) and a 1990s European effort, and is under consideration by the Vaccine Identification Standards Initiative <[www.cdc.gov/nip/visi/](http://www.cdc.gov/nip/visi/)>. To date, around 300 examples are provided.

**Format.** A main root of 3 capital letters is shared by all vaccines for the same disease (**HBV**, **HIB**, **VAR**). Subscripted *specifiers* provide flexibility to indicate conjugate (**HIB<sub>PRP-T</sub>**), serotype (**MEN<sub>ps-ACYW</sub>**), valency (**PNU<sub>en-7</sub>**), manufacturer (**HAV<sub>(MRK)</sub>**), recombinant vectors (**LIS<sub>rVSAL</sub>**), and other details (**PER<sub>a</sub>**). *Combination* notation is by dash (**DTP<sub>a</sub>-HIB-HBV**). *Simultaneous vaccination* uses spaced "plus" (**RAB<sub>PCEC</sub> + RAB<sub>ig</sub>**). Unformatted specifier keyboard entry is OK.

**Principles.** Main roots are selected for onomatopoeia, intuitiveness, specificity, consistency, and significance. Common usage is adopted (**GBS**, **HIV**, **HPV**, **RSV**), but "V" is otherwise avoided to represent "vaccine" or "virus". *Grandfathered exceptions* are for widely-recognized, longstanding **BCG**, **DT**, **DTP**, **IPV**, **MMR**, **OPV**, **Td**, etc.

**Conclusions.** Abbreviations are a personal habit subject to *ad hoc* choice and strong opinion. Adoption of any system may require years of consideration over its utility, flexibility, universality, and elegance.