241

EXPERIMENTAL APPROACHES TO THE FINE IMMUNOCHEMICAL MAPPING OF ANTIGENIC DETERMINANTS ON VIRAL STRUCTURAL PROTEINS. V. I. Markov. Virological Centre of Microbiological Research Institute of the Defence Ministry, Sergiev Posad, Russia.

The modern technique of antigenic mapping include a experimental immunochemical analysis with using different clones of MAb and semi-empirical set of rules for predicting the possible epitopes on protein molecules. However this approach has come not complete information for fine structure of viral antigens as a spacially-packed complex of a biomolecules. For resolve some questions of a molecular immunological analysis structure of a domains on surface of viral glycoproteins we elaborate the complex of methods selective limited destroying of a structural components of epitopes and explore the virus-induced antigenic determinants on surface of infected cells, epitopes on isolated structural proteins, and assembled viral particle. Data, obtained by immunochemical characterization of VEE and Marburg viruses with our sets of MAb, indicated the important role of mixed (protein-oligosacchride) mannose rich epitopes for immunological recognition and protection after virus attack. Our data suggested what the process of assembling and budding viral particles accompanied with a functional maturation of viral antigens and the "play" of a epitopes in some antigenic domains.

242

Effect of staurosporine on the antiviral activity of human interferons. S. Chatterjee[1], P. Burns[1], J.D. Gangemi[2], L. Pirisi[3] and R.J. Whitley[1]. [1]Department of Pediatrics, University of Alabama School of Medicine, Birmingham, AL, [2]Clemson University Biomedical Alliance, Clemson, SC, [3]University of South Carolina, Columbia, SC; USA.

Studies from our laboratory demonstrated that human alpha-interferon (IFN) significantly inhibited the replication of herpes simplex virus type 1 (HSV-1) in human neuroblastoma cells (Chatterjee S and Burns P, 1990 J Virol. 64:5209). Furthermore, human alpha-IFN differentially affected the expression of glycoproteins B,D and E in treated neuroblastoma cells. Recently, we observed that pretreatment of neuroblastoma cells with staurosporine, a selective inhibitor of protein kinase C (PKC) prior to the addition of IFN, blocked the inhibitory effect of IFN on the release of infectious HSV-1 from treated cells. In addition, staurosporine also blocked the effect of IFN on the expression of HSV-1 glycoproteins B, C and D in treated neuroblastoma cells. Similar results were obtained when recombinant alpha-, recombinant beta-, or recombinant hybrid alpha-IFN (B/D) was used instead of alpha-IFN. Addition of human IFNs also resulted in an increased expression of PKC in treated neuroblastoma cells. These results suggest that staurosporine blocks the expression of IFN-induced genes in treated human neuroblastoma cells. Furthermore, these data also indicate that the activation of PKC is an important step in the IFN-treated cells of neuronal origin.