159

Pharmacologically active amines as in vitro inhibitors of Junin virus.

E.B. Damonte, S.E. Mersich, N.A. Candurra, L. Maskin, V. Castilla. Laboratorio de Virología. Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires. 1428 Buenos Aires. Argentina.

Several diverse pharmacologically active amines, including anesthetics, antihistaminics and neuroleptic drugs, have been assayed as antiviral compounds against Junin virus, an arenavirus that induces Argentine Hemorrhagic Fever. The tested substances were procaine, lidocaine, chlorpheniramine, trifluoperazine, chlorpromazine and amantadine. The IV4454 attenuated strain of Junin virus was used. Cytotoxicity evaluation was performed by a trypan blue exclusion method in Vero cells. Antiviral activity was determined by an infectious virus yield reduction assay at 24 hr post-infection and by inhibition of virus antigen expression in an immunofluorescence staining method. For all compounds, dose-response curves at noncytotoxic concentrations were performed and 50% effective dose (ED50) was calculated. All the compounds, except lidocaine, were found to be active against Junin virus replication, inhibiting virus production and antigen expression. The values of ED50 for procaine, chlorpheniramine, trifluoperazine and amantadine were 1.87 mM, 0.34 mM, 23.7 uM and 0.12 mM, respectively. Time course experiments suggested that the inhibitory action of these amines might be exerted on different steps of Junin virus multiplication cycle. They are active either on early viral internalization and uncoating, as lysosomotropic agents, or during a later stage affecting cytoskeleton organization.

160

The Effect of some Drugs on Proteolytic Processing of Adenoviral Proteins

L.N.Nosach[1], N.S.Dyachenko[1], S.I.Butenko[1], V.L.Zhovnovataya[1], L.I.Shevchenko[2], M.A.Lozinsky[2]

[1]Institute of Microbiology & Virology of Academy of Sciences, [2]Institute of Organic Chemistry of Academy of Sciences, Kiev, Ukraine

Adenovirion maturation is markedly effected by proteolytic processing. Some structural adenoviral proteins are synthesized as precursors and on the last stages of virion formation are subjected to the proteolytic cleavage by virion proteinase resulting in their transformation into infectious virions. The possibility for blocking process of transformating precursor of structural core protein, polypeptide p-YII, into structural protein YII by drugs possessing antiproteolytic properties and used for other purposes has been demonstrated in the cell cultures infected by adenoviruses. The results we obtained show that the proteolytic processing can be one of the targets for adenovirus reproduction inhibition, i.e. for developing of antiadenovirus drugs.