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Enhancement of alphavirus replication in cultured cells
by external alkaline pH

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One-cycle and multicycle reproduction of Sindbis, Semliki Forest, and Venezuelan encephalomyelitis viruses in chicken embryo cells (CEC) and BHK cells developed more rapidly in alkaline (pH 7.5-7.9) then in neutral (pH 6.9-7.3) medium. The rate of virus polypeptide synthesis was about two times higher during incubation with alkaline then with neutral medium. Formation of alphavirus plaques in CECs was shown to be hastened under alkaline agar overlayer. The data provide a basis for search of antivirals among acidificating compounds.

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Absence of Antiviral Activity of the Broad-Spectrum Picornavirus Inhibitor Disoxaril (WIN 51711) Against Hepatitis A Virus

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Disoxaril (WIN 51711), a substance developed by Sterling-Winthrop Research Institute has been shown to inhibit the uncoating of a number of human picornaviruses, presumably as a result of binding to a hydrofobic pocket in the VP1 capsid protein. This study was conducted to determine whether disoxaril had an effect against HAV (H141 strain) in tissue culture (Frhk-4 cells). First, drug influence on HAV antigen expression was studied by RIA. No inhibitory effect of disoxaril was observed at non-cytotoxic concentrations ($\leq$ 3 µg/ml), neither in 3.5 nor 7 days assays when varying m.o.i (1-1000 TCID50) and drug concentrations (0.03 - 10µg/ml) were used. Drug influence on early cycles of HAV replication was studied with radioimmunofocus assay on harvested material that had been treated with disoxaril (3 µg/ml) for the first 3 days of HAV propagation. Hereby, no effect on HAV replication was observed. Our data indicate that in hepatitis A virus, a drug binding pocket similar that of other human picornaviruses either may not exist or may be too small for the drug to bind, or that access to the pocket is blocked, like in Mengo virus.