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Evaluation of Antiviral Agents Against HHV-6 and HHV-7 in Human Cord Blood Cells. P. M. Feorino[1], J. Black[2], K. Kite-Powell[2], D. Burns[2], R. F. Schinazi[1*]. Laboratory of Biochemical Pharmacology, Dept. of Pediatrics, Emory University/Veterans Affairs Medical Center, Decatur, GA;[1] and Herpesvirus Section, Centers for Disease Control and Prevention, Atlanta, GA,[2] USA.

There have been only a few studies reporting the evaluation of compounds for activity against human herpesvirus type 6 (HHV-6) and virtually none with HHV-7. We have evaluated 10 potentially useful known antiviral agents, including acyclovir (ACV), penciclovir (PCV), ganciclovir (GCV), and foscarnet (PFA) as potential inhibitors of HHV-$6B_{Z29}$ and HHV-7_{SB}. Human mononuclear cells were isolated from umbilical cord blood and inoculated in triplicate with HHV-6 and HHV-7. One hour later, duplicate dilutions of compounds were added, resulting in 0, 5, 10, 50, or 100 μM final concentrations. After 3-6 days, cells were removed and tested for the presence of virus by indirect immunofluorescence (IFA) using type specific monoclonal antibodies. Three fields of 100 cells each were read from each sample. For PFA against HHV-7 and GCV against HHV-6 the median effective concentration (EC_{50}) values were 4.8 and 37.0 μM, respectively. PCV was less potent than PFA, whereas ACV had no activity against HHV-7. None of the compounds were toxic to cells when tested at concentrations up to 100 μM. The inhibitory effect of the compounds on viral DNA synthesis will be reported.

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Spontaneous Reactivation of Acyclovir Resistant (ACV^r) Thymidine Kinase Deficient (TK^-) Herpes Simplex Virus Type 2 (HSV 2) Is Still Dependent Upon Viral TK Expression.
J.J. SASADEUSZ*, S. SAFRIN, S.L. SACKS. Univ. British Columbia, Vancouver, B.C., and Univ. California, San Francisco, CA.

Previously-treated ACV^r TK^- HSV-2 may spontaneously reactivate in AIDS patients without ongoing treatment, despite the reduced neurovirulence and reactivation potential of TK^- strains. To determine whether *in vivo* complementation from subpopulations of TK^+ virus could allow for spontaneous reactivation, the neurovirulence of two spontaneously-reactivated, ACV^r, TK^- HSV 2 isolates obtained from AIDS patients (1737 and 89-063) were studied in BALBc mice following intracerebral injections with 10^4 pfu.

Mortality Rates

Sham infected	Control TK^+	Control TK^-	1737	89-063
0/6	6/6	0/6	6/6	5/6

ACV^r (ID_{50} 5.3-14.9 μg/ml) HSV-2 was recovered from all brains of dying animals. All but one isolate was TK^- by ^{125}I VaraU uptake (0-3.8%) with one isolate having activity of 23.7%. Plaque autoradiography (^{125}I-IdC/^{14}C-dTdR) of 89-063-derived strains demonstrated uniformly faint uptake, suggestive of a homogeneous