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Potent Therapeutic and Prophylactic Efficacy of F-PAB in Mice Infected with Human Enteroviruses.

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The systemic efficiency of the novel antipicornavirus agent F-PAB[1-(4-fluorophenyl)-2-(4-pyridylaminomethyl)benzimidazole] was assessed in adult or suckling mice infected with human enterovirus. Single, daily subcutaneous doses of F-PAB as low as 10 mg/kg significantly ($p<0.0025$) prevented the development of coxsackievirus B4(637 strain)-induced hypoglycemia in adult SJL/J mice (7- to 8-weeks old). Analysis of the virus titers in the pancreas of animals demonstrated that F-PAB reduced the titer in a dose-dependent manner when compared with placebo, implying that direct inhibition of virus replication was parallel to the levels of plasma glucose. In adult BALB/c mice (7- to 8-weeks old) infected with 5 LD_{50} of coxsackievirus B4 (637 strain), intraperitoneal twice a day dosage regimen with F-PAB doses as low as 1.25 mg/kg was also effective in significantly reducing death ($p<0.05$). When suckling CD-1 mice were infected with 5 LD_{50} of coxsackievirus A9 (Bozek strain), subcutaneous administration with dose as low as 0.5 mg/kg (twice daily) significantly prevented paralysis and death ($p<0.001$). Furthermore, F-PAB was effective even when therapy was initiated 48 to 72 h after infection in both adult and suckling mouse models. From these findings, F-PAB is expected to have great potential for successful treatment of enterovirus infection in humans.

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Investigation on IRS-19 (Sarbach, France) in Influenza A Virus Infection in Mice and Humans

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We have shown that IRS-19 (aerosol) has a protective activity against experimental influenza A(H_3N_2) infection in mice. Combination of IRS-19 with inactivated bivalent influenza (A, H_1N_1 and H_3N_2) vaccine increased the level of anti-influenza A antibodies. In double-blind studies in human volunteers with clinical symptoms caused by the live virus vaccine A(H_3N_2), IRS-19 did not diminish the symptoms but increased the resistance to reinfection and also increased the functional activity of T cells, especially in persons with low level of immunity. IRS-19 treatment for 21 days of patients with chronic sinusitis prevented recurrences of acute sinusitis and other acute respiratory tract infections.