

Anti-Herpes Effect of Hemocyanin Derived from the Mollusk

Rapana thomasiana

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The cytotoxicity and the antiviral activity of native hemocyanin, RtH, derived from the Bulgarian marine mollusk *Rapana thomasiana* and its structural isoform, RtH2, against HSV replication was evaluated on three HSV strains – two *wt* strains, TM (HSV 1) and Bja (HSV 2), and one ACV^R mutant with *tk* gene mutation, DD (HSV 2). The experiments were performed on continuous RD 64 cells and three HSV 1 and HSV 2 strains were used, two mutants sensitive to acyclovir and one resistant mutant.

Both compounds were found to be effective inhibitors of *wt* HSV replication. Both compounds did not exhibit any effect on the infectious virus yield on ACV^R mutant. The most promising, active and selective, anti-HSV agent, especially to genital herpes virus, was found to be the functional unit of native hemocyanin – RtH2. RtH2 did not induce apoptosis/necrosis 8 h after virus infection and the target of its action, was found to be the viral but not the host cell DNA.

Key words: Herpes Simplex Virus, *Rapana thomasiana*, Hemocyanin, Resistance