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Antiproliferative activity of homospisulosine and its derivatives

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Statement of the Problem: *Spisula polynyma* is an edible kind of clam, which is also known as the Stimpson surf clam or the Atlantic surf clam. *S. polynyma* was initially found off the coast of Japan and used for sushi. (+)-Spisulosine (Figure 1), a natural analog of the membrane phospholipid sphingosine, was isolated from this clam. 285) was in phase I clinical trial in patients with advanced solid tumors. Laboratory examination showed abnormalities such as anemia, lymphopenia, and dose limiting increase in liver enzymes (alkaline phosphatase, transaminases, and bilirubin). Hepato were considered as a limiting adverse effects for spisulosine. Homospisulosine is a synthetic derivative of spisulosin prepared by a complete stereoselective synthesis and minimal information about its antiproliferative activity have focused on monitoring the potential mechanism of action of homospisulosin on various tumor cell lines. Materials and methods: The cytotoxic effect of tested compounds o human cancer cell lines was studied by using MTT colorimetric microculture assay. Mechanism of action of most effective compound was studied by flow cytometric analysis. Findings: In our experiments we found out, that homospisulosine significantly reduced proliferation in HeLa cells. Using other experiments we demonstrated the ability of homospisulosine cell cycle and induce apoptosis. Conclusion & Significance: The seas and oceans form source not only food for human population. There are lots of unexplored substances, which present potential in About homospisulosine we have very little informations. us to test its biological activity. To explain the mechanism of action of homospisulosine requires not only in vitro but also in vivo future.

Biography

Gabriela Göniová is a PhD. student at University of Pavol Jozef Šafárik in Košice. Currently, she is working on anticancer research based on marine origin compounds. At medical faculty of the university she teach pharmacology and biochemistry too. She graduate in organic chemistry at the same university.

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