

Abstract

Molecular mechanism of anti-cancer activity of selected natural compounds

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Nowadays, cancer is affecting more than a third of the world's population and it's the cause of more than 20% of all deaths. A better understanding of cancer at the epigenetic, genetic, molecular and cellular levels is opening up lots of opportunities to intervene with the goal of preventing end-stage of the invasive disease. Recently, much attention is paid to the natural substances because of its ability to interact specifically in the tumorigenesis. These compounds are preferred before the standard treatment because of its availability and safety. In this work, there were observed the effects of 6-shogaol, 6-gingerol and galangin in the leukemic cells Jurkat. The greatest efficiency was showed by 6-shogaol which caused apoptosis in cells by activating the antiproliferative signalling of Hippo pathway and it also decreased the expression of *C-MYC* oncogene. There was also a decline of C-MYC oncoprotein which has a key role in the tumor cells metabolism through its ability to provide enough of energy for the growth and active proliferation.

(In Czech)