

Influence of nano green tea extract and nanocomposite of green tea extract and red wine lees on the growth of experimental tumors in animals

S. Zaletok, O. Samoylenko, L. Gulua, O. Orlovsky, S. Gogol, V. Milinevska, A. Verbinenko and O. Karnausenko
R.E. Kavetsky Institute of Experimental Pathology, Ukraine

The influence of nano green tea extract (nanoEGT) and nanocomposite of green tea extract and red wine lees (nanoEGT+RW) and their joint with the cytostatic drugs effect on the growth of Guerin carcinoma and Walker carcinosarcoma in rats and on the development of L1210 lymphocytic leukemia in mice were studied. The animals with grafted tumors consumed of 0.1% solution of the NanoEGT and nanoEGT+RW instead of drinking water. It is shown that nanoEGT and nanoEGT+RW significantly inhibit (25%-40%) growth of the studied tumors. It was found also that nanoEGT and nanoEGT+RW in combination with cytotoxic drugs (cisplatin, doxorubicin, mercaptopurine, etc.) significantly increase their antitumor effect. We also examined the possibility of the nanoEGT and nanoEGT+RW application to reduce the side effects of cytostatic drugs. It has been shown, that nanoEGT and nanoEGT+RW have antioxidant properties and reduce the levels of malone dialdehyde in liver, kidney and heart of animals with tumors. In addition, it was revealed that nanoEGT and nanoEGT+RW normalize haematological parameters in experimental animals (increasing number of red blood cells and hemoglobin levels have been reduced by cisplatin). The results indicate the promise of such research to further use nanoEGT and nanoEGT+RW in a comprehensive prevention and treatment support in the therapy of cancer patients.

Biography

Sophia Zaletok has graduated from Kyiv State University (Ukraine), faculty of biology. She has completed her Ph.D at the age of 26 years from R.E. Kavetsky Institute of experimental pathology, oncology and radiobiology of NAS of Ukraine, Kyiv, Ukraine. She has also completed her Dr.Sci in the specialty "Oncology" in 2007. Sophia Zaletok is the Head of Department of Tumor Growth Biochemistry in R.E. Kavetsky Institute of experimental pathology, oncology and radiobiology of NAS of Ukraine. She has published more than 40 papers in reputed journals and has received 7 Ukrainian patents.

sophiazaletok@mail.ru