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EFFECT OF THE C_{60} FULLERENE, DOXORUBICIN AND THEIR COMPLEX ON CANCER AND NORMAL CELLS OF BALB/c MICE

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One of the main strategies in anticancer therapy is inhibition of the proliferative activity of cancer cells. However, antitumor action of conventional chemotherapy is always associated with numerous side effects, in particular it is toxic with respect to normal organs and in many cases promotes the progression of tumors. In this regard, there is a need to develop alternative therapies of tumors and the search of new non/low toxic (relative to normal cells) tumoritropic substances, which cause their degradation. Toxic effects of these substances on cancer cells can be realized by stimulating their death due to necrosis or apoptosis. To controlling these processes the use of pristine C_{60} fullerenes, which are capable in combination therapy to improve the antitumor activity of traditional antitumor drugs, preventing their toxic effect on the organ level by inhibiting reactions of peroxidation, is proposed.

The toxic effect of the created pristine C_{60} fullerene with an antibiotic anthracyclines doxorubicin (Dox) complex on tumor (Ehrlich ascites carcinoma) and immune (lymphocytes and macrophages) cells and hepatocytes was evaluated. It demonstrates the potential for high efficiency of C_{60}+Dox complex use in cancer therapy.

Key words: C_{60} fullerene, doxorubicin, C_{60}+Dox complex, toxicity *in vitro*.

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