Abstract:

Tumor disease is the second most common cause of death in the Czech Republic, right after cardiovascular diseases. The relatively new and growing science field of nanomedicine brought a new insight into the possibilities of studying the tumor diseases with nanotransporters. The encapsulation of the drug into the nanotransponers can improve the properties and distribution of the cytostatics, in particular to reduce the side effects of the cytostatics on the surrounding healthy tissue. This work studied nanotransporter apoferritin *(apo-form of ferritin)* as a very promising candidate for the clinical use. Optimization of the preparation of apoferritin nanotransporters with two different cytostatics – doxorubicin and ellipticine was studied. Furthermore, apoellipticine was characterized in more detail in terms of its physicochemical properties *(stability and size)*. The results obtained show promising potential of these nanocarriers for the clinical use.

Key words

anticancer drugs, doxorubicin, ellipticine, nanomedicine, nanocarriers, apoferritin