

BIOCHEMISTRY

The study of interaction of new coumarin derivatives with selected proteins.

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study form: full time

Annotation: In the thesis, we will deal with an interaction of novel small derivatives – coumarine derivatives which can influence the structure of selected proteins. The spectroscopic characteristics, stability in water solution and reactivity of the newly synthesized compounds will be studied.

We will determine the mode of interaction and calculate binding constants. The effects of these compounds on serum albumin and histone proteins will be examined. The potential antitumor effects of these compounds will be tested against both human and mice leukemia cell lines and HeLa cell. The effect of substances on cells will be studied using flow cytometry analysis and the mode of cellular death will be determined. The localization of derivatives in cells will also be analyzed using confocal microscopy.