ABSTRACT

The origin of malignant tumors have different internal and external factors and also have been shown that, for majority of exogenous chemical carcinogens, the genotoxicity depends on metabolic activation through enzymes. Members of the subfamilies CYP1A are involved in activation of precarcinogens, for example the heterocyclic amine PhIP. One of the main approaches to achieve a reduction in a cancer risk is prevention. Recently, the consumption of dietary supplements containing various chemopreventive substances, such as flavonoids, has expanded. On the other hand, some negative effects of these compounds were also confirmed, especially their ability to induce cytochrome P450 and thus increase the risk of activating precarcinogens. In this study, the inductive effect of a single administration of chemopreventive compounds, namely the effect of β-naphtoflavon to cytochrome P450, had been investigated. Furthermore, a sequential study was carried out. In this study rats were first given an inducer, the β-naphtoflavon, and after a passed interval they were given the carcinogen PhIP. Finally, the effect of PhIP on the activity of cytochrome P450 has been studied *in vitro*.

KEY WORDS: cytochrome P450, carcinogens, chemopreventive compounds