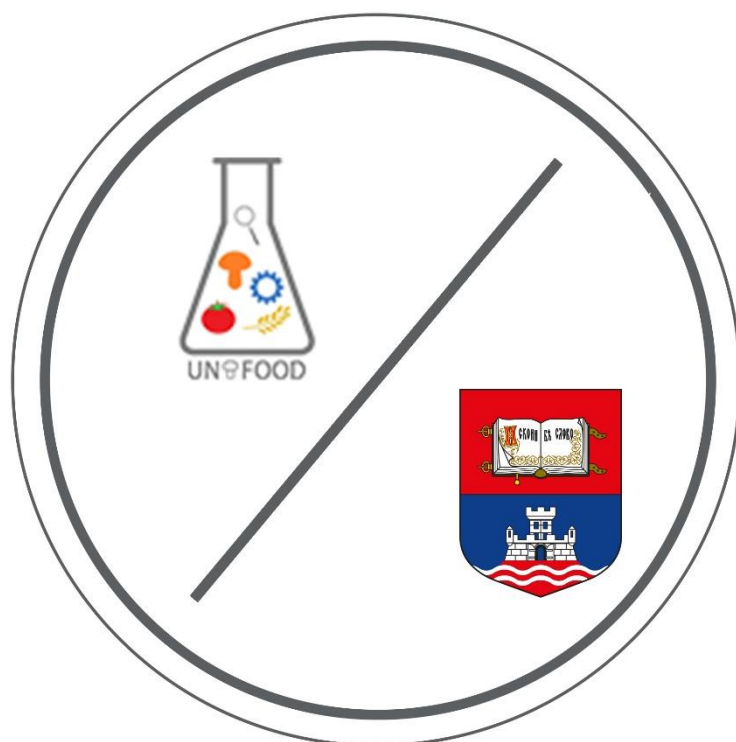


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DNA PROTECTIVE POTENTIAL OF FORSKOLIN ON ETHYL METHANESULFONATE-INDUCED GENOTOXICITY

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Forskolin, a diterpene with multiple physiological effects, found in the root of the plant *Coleus forskohlii* (Willd.) Briq., is used in traditional medicine in the treatment of various diseases. Also, it has been proposed as a natural weight loss supplement. Considering the widespread usage for therapeutic purposes and as a weight loss agent, a sex-linked recessive lethal (SLRL) assay was performed in germ cells of *Drosophila melanogaster* to assess genotoxic and possible DNA protective effects of forskolin on ethyl methanesulfonate (EMS)-induced DNA damage. The genotoxic effect of forskolin was tested at a concentration of 100 ppm for exposure periods of 24 h. To assess the DNA protective effect, *D. melanogaster* males were treated with EMS (0.75 ppm), 24 h prior to forskolin (100 ppm). Treated *D. melanogaster* males showed significant reductions in the frequency of sex-linked recessive lethal mutations in all three broods in comparison with the negative and positive controls. The genotoxic evaluation of forskolin by *in vivo* SLRL assay indicated that this compound did not induce any genotoxic effect and also exhibited a DNA protective potential against EMS.

Keywords: Forskolin, SLRL test, in vivo, genotoxicity, antigenotoxicity

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