

Antimutagenic Profile of Antioxidant Vitamins in *Drosophila* Mutation Test

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Objective To assess the antimutagenicity of antioxidant vitamins (vitamins A, C, and E) as expressed by their efficacy to lower aflatoxin-induced mutations. **Methods** The Muller-5 method for mutation detection was used to assay the frequency of X-chromosome linked recessive lethal mutations (XRLMs) in *Drosophila*. Larvae were exposed to dietary concentration of aflatoxins and/or the human therapeutic doses of any of the three antioxidant vitamins. Absence of normal eyed males among M₂ progeny gave an indication of mutation induction. **Results** Aflatoxin supplementation significantly increased the incidence of XRLMs in *Drosophila*. Mutation frequency was also raised a little above the control level in case of vitamin treatment. However, notable mitigation in mutation frequency was registered when aflatoxin-treated larvae were concomitantly fed with any of the three antioxidant vitamins. **Conclusion** Aflatoxin exposure can enhance the frequency of gene mutation in *Drosophila* which is significantly lowered by each of the three antioxidant vitamins. The degree of amelioration produced by them is almost identical. This mitigation is based on the scavenging/trapping by antioxidant vitamins of DNA-reactive products (metabolites and radicals) emanating from aflatoxin metabolism.

Key words: Antimutagenicity; Antioxidant vitamins

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