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**Activation of the ras oncogene and its relationship to
aflatoxins-DNA adduct formation in the rat liver treated with
aflatoxins**

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Aflatoxins are produced by *Aspergillus flavus*, *parasiticus* and their related fungi that grow in improperly stored foods such as corn, rice, peanuts and other cereals. In addition to its high mutagenicity and cytotoxicity, aflatoxin B₁ (AFB₁) is a potent hepatocarcinogen in experimental animals and an important factor for the human liver cancer. In spite of a high attention to the hepatocarcinogenicity of aflatoxins, the relative toxicity, for the risk assessment, of other types (AFB₂, AFG₁ and AFG₂) of the toxin was not fully studied. In the present study, the relative potency for the hepatotoxicity, mutagenicity, and DNA-adduct formation by aflatoxins B₁, B₂, G₁ and G₂ were investigated. Sprague-Dawley male rats were orally administered AFB₁, AFB₂, AFG₁ and AFG₂ at doses of 0.25, 1.25 or 2.5 mg/kg. Animals are killed at 12, 24 or 48 hrs following aflatoxin exposure, the histopathological examination, expression of ras oncogene and 8-OxodG formation as the biomarkers of hepatotoxicity, mutagenicity and DNA-adduct formation, respectively, were examined and analyzed for the relative toxicity of aflatoxins.