

## **Detection of 8, 9-dihydro-(7'-guanyl)-9-hydroxyafatoxin B1 in human urine.**

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### **Abstract**

A possible role of aflatoxin B1 (AFB) in the etiology of human liver cancer has been suggested from several epidemiological studies. This has been based upon the association between consumption of AFB-contaminated food and the liver cancer incidence in different parts of the world. To further establish the role of AFB as a major factor, we initiated a pilot study in three different districts of Kenya to determine the number of individuals exposed to significant amounts of AFB as measured by the urinary excretion of 8,9-dihydro-8-(7-guanyl)-9-hydroxyafatoxin B1 (AFB-Gua), an adduct formed between the ultimate carcinogenic form of AFB and nucleic acids. This product has previously been detected in urine from rats treated with AFB. Urine collected at the outpatient clinics at the district hospitals were concentrated on C18 Sep-Pak columns and analyzed by high-pressure liquid chromatography under two different chromatographic conditions. The chemical identity of the samples showing a positive response in both chromatographic systems was verified by synchronous scanning fluorescence spectrophotometry. The highest number of individuals with detectable urinary AFB-Gua lived in either Murang'a district or the neighboring Meru and Embu districts. In Murang'a district a rate of 12% was observed in the January-March period, while only 1 of 32 patients (3%) had a detectable exposure in July-August