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Product Information

Anti-Aflatoxin B_1
produced in rabbit, fractionated antiserum

Catalog Number **A8679**

Product Description

Anti-Aflatoxin B_1 is produced in rabbit using aflatoxin B_1-KLH as the immunogen. The fractionation procedure yields primarily the immunoglobulin fraction of antiserum.

In a competitive ELISA, the antibody reacts with B_1 aflatoxin and also recognizes aflatoxins G_1, B_2, and the KLH protein. No cross-reaction is observed with aflatoxins B_{2a}, G_2, G_{2a}, and M_1.

Aflatoxins are a group of natural fungal toxins (mycotoxins) synthesized by *Aspergillus flavus* and *Aspergillus parasiticus*, which can be found as contaminants in human and animal foodstuffs. Aflatoxin B_1 is the most abundant and significant member of the group, which includes B_2, B_{2a}, G_1, G_{2a}, M_1, M_2, P_1, Q_1, aflatoxicol I (natural isomer), aflatoxicol II (unnatural isomer), tetrahydrodeoxy aflatoxin B_1, and the unstable reactive B_1 (8,9)-epoxide. The ability of aflatoxin B_1 and its metabolites to act as potent carcinogens, mutagens, and teratogens, in addition to its toxicity is well known.

Aflatoxins have been implicated in human hepatocellular carcinoma, outbreaks of aflatoxicosis, Rey's syndrome, chronic hepatitis, and increased mortality from infection in animal husbandry. Humans and animals are exposed to aflatoxins by consuming foodstuffs exposed to aflatoxins that have been directly contaminated by fungal strains during growth, harvest, or storage. Many grains and foodstuff including corn, peanuts, tree nuts, cottonseed, cereal crops, beans, cassava, milo, sorghum, copra, rice, dried fish, and beer have been found to be contaminated with aflatoxins as a result of natural invasion by the molds before and during harvest, or because of improper storage. Thus, man may be exposed to aflatoxins in his diet either directly, by eating contaminated grains or nuts, or indirectly via animal tissues (meat) or animal products (milk).

The aflatoxins are becoming increasingly recognized as a serious health risk to humans and animals alike. Consequently, a suitable analytical method for the detection of these toxins must be available for effective food and feed safety-monitoring programs. Anti-Aflatoxin B_1 may be used for qualitative detection of aflatoxins (primarily B_1). A competitive ELISA using this antibody is not confirmatory due to the cross reactivity with aflatoxins G_1, B_2, and G_2.

Reagents

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Indirect ELISA: a working dilution of at least 1:4,000 was determined using 1 µg/ml of aflatoxin B_1-BSA as coating antigen.

Specificity using ELISA
The antibody reacts with the B_1 aflatoxin and also recognizes aflatoxins G_1, B_2, and the KLH protein. No cross-reaction is observed with aflatoxins and B_{2a}, G_2, G_{2a}, M_1.

Note: In order to obtain best results it is recommended that each individual user determine their working dilution by titration assay.

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