Lot 50H4830

Monoclonal anti-Aflatoxin B<sub>1</sub> (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. An aflatoxin B<sub>1</sub>-KLH conjugate was used as the immunogen. The isotype is determined by a double diffusion assay using immunoglobulin and subclass specific antisera. The product is provided as ascites fluid with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

The antibody reacts with the B<sub>1</sub> aflatoxin and also recognizes aflatoxins G<sub>1</sub>, Q<sub>1</sub>, B<sub>2</sub>, and G<sub>2</sub>. In a competitive ELISA no cross reaction is observed with aflatoxins B<sub>2a</sub>, G<sub>2a</sub>, M<sub>1</sub>, M<sub>2</sub>, and P<sub>1</sub> or with free KLH. In dot blots or ELISAs the antibody will bind to Aflatoxin B<sub>1</sub> conjugated to BSA or KLH.

Description

Aflatoxins are a group of naturally occurring fungal toxins (mycotoxins) synthesized by Aspergillus flavus and Aspergillus parasiticus, which can be found as con-taminants in human and animal foodstuffs. Aflatoxin B<sub>1</sub> is the most abundant and significant member of the group which includes B<sub>2</sub>, B<sub>2a</sub>, G<sub>1</sub>, G<sub>2a</sub>, M<sub>1</sub>, M<sub>2</sub>, P<sub>1</sub>, Q<sub>1</sub>, aflatoxicol I (natural isomer), aflatoxicol II (unnatural isomer), tetrahydrodeoxyaflatoxin B<sub>1</sub>, and the unstable reactive B<sub>1</sub> (8,9)-epoxide. The ability of aflatoxin B<sub>1</sub> (AFB<sub>1</sub>) 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 foodstuffs 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 and quantification of these toxins must be available for effective food and feed safety monitoring programs. Sensitive, specific, reliable and accurate methods of analysis which apply to monoclonal antibodies have been developed including enzyme immunoassays, competitive enzyme immunoassays and immuno- affinity purification assays.

Uses

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. Monoclonal anti-Aflatoxin B<sub>1</sub> may be used for qualitative detection of aflatoxins (primarily B<sub>1</sub> and G<sub>1</sub>). This product is not recommended for quantitative detection of aflatoxin B<sub>1</sub> due to cross reactivity of the antisera to aflatoxins G<sub>1</sub>, Q<sub>1</sub>, B<sub>2a</sub>, and G<sub>2a</sub>.

Titer: 1:20,000

The antibody titer was determined by competitive ELISA using 2µg/ml of aflatoxin B<sub>1</sub>-BSA as coating
antigen and aflatoxin B₁ standards in the range of 1.0-50 ng/ml. In order to obtain best results it is recommended that each individual user determine their working dilution by titration assay.

Storage

For continuous use, store at 0-5°C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

*Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

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