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## Product Information

### ANTI-AFLATOXIN B<sub>1</sub> PEROXIDASE CONJUGATE Antibody developed in Rabbit Fractionated Antiserum

Product No. **A 2681**

#### Product Description

Anti-Aflatoxin B<sub>1</sub> is developed in rabbit using aflatoxin B<sub>1</sub>-KLH as the immunogen. The fractionation procedure yields primarily the immunoglobulin fraction of antiserum. The fractionated antiserum is conjugated to horseradish peroxidase by a glutaraldehyde method.

In a competitive ELISA the antibody reacts with the B<sub>1</sub> aflatoxin and also recognizes aflatoxins G<sub>1</sub>, B<sub>2</sub>, and G<sub>2</sub> and the KLH protein. No cross reaction is observed with aflatoxins B<sub>2a</sub>, G<sub>2a</sub>, M<sub>1</sub>.

Aflatoxins are a group of naturally occurring fungal toxins (mycotoxins) synthesized by *Aspergillus flavus* and *Aspergillus parasiticus*, which can be found as contaminants 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> 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.

Peroxidase Rabbit Anti-Aflatoxin B<sub>1</sub> may be used for qualitative detection of aflatoxins (primarily B<sub>1</sub>). A competitive ELISA using this antibody is not confirmatory for the B<sub>1</sub> aflatoxin due to the cross reactivity with aflatoxins G<sub>1</sub>, B<sub>2</sub>, and G<sub>2</sub>.

#### Reagents

The conjugate is supplied as a liquid in 0.01 M phosphate buffered saline, pH 7.4 containing 1% BSA and 0.01% thimerosal as a preservative.

#### Product Profile

Protein Concentration: 10-15 mg/ml  
Molar Ratio: (IgG:Peroxidase) 0.45-0.85  
Titer: Minimum 1:500

The antibody titer was determined by competitive ELISA using 1 µg/ml of freshly prepared aflatoxin B<sub>1</sub>-BSA as coating antigen and aflatoxin B<sub>1</sub> standards in the range of 0.01-20 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 2-8 °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.

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