

Product Information

ANTI-SOY PROTEIN

Developed in Rabbit
Fractionated Antiserum

Product No. **S 2519**

Product Description

Anti-Soy Protein is developed in rabbit using purified soy protein as the immunogen. The fractionation procedure yields primarily the immunoglobulin fraction of antiserum.

Rabbit Anti-Soy Protein shows specific activity with soy protein extracts from "renatured" samples that have been treated with hot urea solution. The product shows some cross-reaction with hot urea extracts of wheat flour and ovalbumin. No cross reactivity is observed in such extracts of meat, corn or casein, rice or potato flour.

Soy protein, in a variety of forms, can be incorporated into meat products, or used as meat extenders or analogues. Soy protein is also the basis of many low cholesterol diet products. As a result, food manufacturers are becoming more interested in ways to test their food products for soy protein content. In analyzing these products, it is necessary to distinguish the non-soy protein that can cause complex problems, especially if the proteins have been heat-treated during processing. Therefore, an analytical method should not be affected by the type of soy protein, the form of the ingredient or any heat pretreatment of the product. In order to reduce the soy protein to a comparable state for the immunological assay, the target antigen (i.e., the soy protein) is "renatured" from hot urea solutions by either removing or diluting the denaturant.

Reagents

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

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.

Product Profile

Protein Content: at least 8.0 mg/ml determined by absorbance ($E_{280}^{1\%} = 14.0$).

Titers

1. A minimum dilution of 1:500 is determined by indirect dot blot immunoassay using a 1 μ l dot of antigen at 0.1-1.0 mg/ml.
2. A minimum dilution of 1:5,000 is determined by indirect ELISA using 20 μ g/ml coat of antigen.

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 up to one month. 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.

Procedure for Preparation of Soy Protein Extracts

"Renaturation" of hot urea extraction of Soy Acetone Powder or samples containing Soy Protein.

Materials

1. Soy acetone powder may be used as a standard.
2. Food samples containing soy protein - vegetable protein.
3. Food samples not containing soy protein - meat, ovalbumin
4. 1 mM Tris-HCl buffer, pH 8.6
5. Mercaptoethanol
6. Urea

Procedure

1. Place 50 mg of soy acetone powder or food sample in a 15 ml glass test tube.
2. Add exactly 3 grams of urea, 1 ml of Tris-HCl buffer and 0.1 ml mercaptoethanol.
3. Mix well.
4. Dissolve urea by adding water. Total volume of reaction mixture should not exceed 5 ml.

5. Seal tube with aluminum foil.
6. Place sealed tube in boiling water or steam bath for 1 hour.
7. Cool for 3-5 minutes, collect the upper clear fluid layer. This layer of extract may be kept at 4 °C for up to 1 month. Dilute in buffer prior to use in assay.

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