

Product Information

Anti-Staphylococcal Enterotoxin B-Peroxidase

antibody produced in rabbit, IgG fraction of antiserum

Product Number **SAB4200831**

Product Description

Anti-Staphylococcal Enterotoxin B antibody is developed in rabbits using purified staphylococcal enterotoxin B from *Staphylococcus aureus* as the immunogen. Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of the antiserum, which is conjugated to horseradish peroxidase.

Anti-Staphylococcal Enterotoxin B-peroxidase antibody specifically recognizes staphylococcal enterotoxin B (SEB) and has no crossreactivity with staphylococcal enterotoxin A (SEA), cholera toxin, or pseudomonas exotoxin A. The antibody may be used in various immunochemical techniques including ELISA.

Staphylococcus aureus is a Gram-positive bacterium, that causes disease in the human population including food poisoning and toxic shock syndrome.¹ *S. aureus* expresses several secreted virulence factors, such as various enzymes, cytotoxins, exotoxins, and exfoliative toxins.¹ Exotoxins include more than 20 serologically classified staphylococcal enterotoxins (SEs). The best characterized are the SEs A, B through V, and toxic shock syndrome toxin-1 (TSST-1). These enterotoxins are similar in activity, sequence, structure, and molecular mass (25-30 kDa).¹⁻³

SEA and SEB are known as superantigens due to their ability to bind class II MHC molecules on antigen presenting cells and stimulate extensive T-cell activation followed by massive cytokine release leading to an acute toxic shock.¹⁻⁴

SE proteins have a significant resistance to heat and acid, and are also resistant to gastrointestinal proteases including pepsin, trypsin, rennin, and papain. Thus, killing the *S. aureus* bacteria may not be sufficient to eliminate the risk of the superantigens from causing food poisoning.¹

SEB contamination can be caused by both its ingestion (resulting with food poisoning) or by inhalation (resulting with respiratory symptoms of cough and dyspnea), therefore detection of SEB is a major challenge in the food industry.^{1,3,5-10} SEB is also classified as a category B select agent with bioterrorism threat and thus importance in biological defense.⁵⁻⁹

Reagent

Supplied as a lyophilized powder.

Preparation Instructions

Reconstitute the contents of the vial with 0.1 mL of distilled water to a final antibody concentration of ~4 mg/mL. After reconstitution, the solution contains 2.5% trehalose and 0.01% thimerosal in 0.01 M sodium phosphate buffered saline.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the lyophilized product at 2–8 °C. For extended storage after reconstitution, keep at –20 °C in working aliquots. Avoid repeated freeze-thaw cycles. For continuous use after reconstitution, keep at 2–8 °C for up to 1 month. Solutions at working dilution should be discarded if not used within 12 hours.

Product Profile

Direct ELISA: a working dilution of 1:8,000–1:16,000 is recommended using 1 µg/mL staphylococcal enterotoxin B for coating.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration.

References

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