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Product Information

Anti-Cholera Toxin-Peroxidase antibody
produced in rabbit, IgG fraction of antiserum

Product Number **SAB4200826**

Product Description

Anti-Cholera Toxin antibody is developed in rabbits using purified toxin from *Vibrio cholerae* as immunogen. Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of the antiserum and is conjugated to horseradish peroxidase.

Anti-Cholera Toxin-peroxidase antibody specifically recognizes Cholera Toxin and has no cross reactivity with Staphylococcal Enterotoxin A (SEA), Staphylococcal Enterotoxin B (SEB) or Pseudomonas Exotoxin A. The antibody may be used in various immunochemical techniques including ELISA.

Cholera toxin (CTx) also known as choleragen, is an enterotoxin produced by the Gram-negative bacterium *Vibrio cholerae* that naturally habitat in fresh or saltwater environments. Most of the *V. cholerae* species do not cause any disease in human, but few including serotypes O1 and O139 can cause cholera pandemics. These cases were described as early as the 19th century.[1] The *V. cholerae* virulence factors CtxA and CtxB are located at the CTX phage genome integrated within the bacterial chromosome. Since species virulence may change due to mutations and acquisition of virulence genes, cholera pandemics have a major public health risk with potential for large numbers of cases and even deaths.[1-3]

CTx is composed of two subunits, the toxic CTxA (~27 kDa) and non-toxic CTxB (~12 kDa) assembled with the stoichiometry AB5.[4] The B-subunit specifically binds to monosialoganglioside G_{M1} receptors, located in the membrane of intestinal epithelial cells.[5] The A1 fragment of the A-subunit is translocated through the membrane of the host cell, where it catalyses the ADP-ribosylation of the Gsa regulatory component of the adenylate cyclase complex. The resulting increased level of cyclic AMP promotes a wide variety of actions, including the secretion of chloride ions in the case of intestinal epithelial cells.[6-7]

Antibodies specific for cholera toxin may be used in studies of structural and functional aspects of toxin-membrane interactions and for the detection of CTxB, when used, for example, as an adjuvant when injected mucosally together with the desired antigen.[8-10]

Reagent

Supplied as a lyophilized powder.

Preparation Instructions

Reconstitute the content 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 5 μg/mL Cholera Toxin for coating.

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

References

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