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Product Information

Anti-Cholera toxin, B Subunit (CTxB) antibody
Mouse monoclonal, Clone CTxB-24
purified from hybridoma cell culture

Product Number **SAB4200844**

Product Description

Monoclonal Anti-Cholera toxin, B Subunit (CTxB) antibody (mouse IgG1 isotype) is derived from the CTxB-24 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with recombinant Cholera Toxin B subunit, expressed in HEK293 cells as immunogen. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Product Number ISO2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Cholera Toxin antibody specifically recognizes Cholera Toxin and has no cross reactivity with Staphylococcal Enterotoxin A (SEA), Staphylococcal Enterotoxin B (SEB), Pseudomonas Exotoxin A, or Staphylococcal Alpha-Toxin (α-Hemolysin). The antibody may be used in various immunochemical techniques including Immunoblotting, Immunofluorescence, and ELISA. Detection of the CTxB band by immunoblotting is specifically inhibited by the immunogen.

Cholera toxin (CTx) also known as choleragen, is an enterotoxin produced by the Gram-negative bacterium *Vibrio cholerae* that is naturally found in habitats of fresh or saltwater environments. Most of the *V. cholerae* species do not cause any disease in humans, but a few including serotypes O1 and O139 can cause a cholera pandemic. 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, a cholera pandemic is 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 monosialogangliosides GM_1 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 solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

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

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 μg/mL is recommended using His-tagged recombinant Cholera Toxin B subunit.

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

References

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