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Product Information

Anti-Shiga Toxin 1, B Subunit-FITC antibody, Mouse monoclonal
Clone 13C4, purified from hybridoma cell culture

Product Number **SAB4200799**

Product Description

Monoclonal Anti-Shiga Toxin 1, B Subunit-FITC (mouse IgG1 isotype) is derived from the hybridoma 13C4 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a purified Shiga-like toxin from *E. coli* H30.[1] 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. The purified antibody is conjugated to fluorescein isothiocyanate (FITC).

Monoclonal Anti-Shiga Toxin 1, B Subunit -FITC recognizes the B subunit of Shiga holotoxin. The antibody may be used in various immunochemical techniques including flow cytometry.

The Shiga toxins are a family of related protein toxins secreted by certain types of bacteria. Shiga toxin (Stx) is produced by *Shigella dysenteriae*; whereas, the Shiga-like toxins, Stx1 and Stx2, with a few known isoforms, are secreted by specific strains of *Escherichia coli* named Shiga-toxin-producing *E. coli* (STEC) such as *E. coli* O157:H7, that may cause bloody diarrhea and hemorrhagic colitis in humans, which may lead to fatal systemic complications.[2] Stx1 is identical to Stx, while the Stx2 isoforms share less sequence similarity with Stx (~60%) and are immunologically distinct. In spite of the differences in their amino acid sequence, all Stx isoforms share the same overall toxin structure and mechanism of action.[3] Shiga toxins consist of two polypeptides: A and B.[5] The catalytic A subunit has RNA N-glycosidase activity that inhibits eukaryotic protein synthesis.[2] The B subunits form a pentamer, which recognizes and binds to the functional cell-surface receptor globotriaosylceramide [Gb3, Gala(1-4)-Galb (1-4)-Glcb1-ceramide].[2] Gb3 is overexpressed in membranes of numerous tumor cells,[6-7] therefore STxB binding to Gb3 receptors may be useful for cell-specific vectorization, labeling, and imaging purposes.[6-8]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4 and 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is 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 protected from light 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. Protect from prolonged exposure to light.

Product Profile

Direct flow cytometry: a working concentration of 2–4 μg/test is recommended using human RAMOS cells pretreated with recombinant Shiga toxin 1, B subunit.

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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SG,DR,OKF,LV,MAM 03/18-1