

Enterohemorrhagic E. coli (EHEC) stx2B / Shiga toxin II subunit B Protein (His Tag)

Catalog Number: 40019-E08E



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

stx2dB; stx2gB

Protein Construction:

A DNA sequence encoding the E.Coli STX2B (Q93EY4) (Met 1-Asp 89) was expressed, with a polyhistidine tag at the N-terminus.

Source: E. coli

Expression Host: E. coli

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant E.Coli STX2B consisting of 95 amino acids and has a calculated molecular mass of 10.6 kDa. It migrates as an approximately 16 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

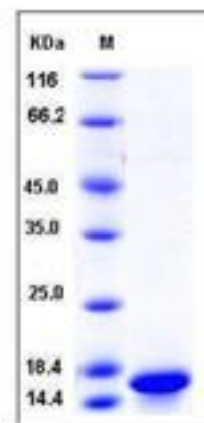
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

E. Coli STX2B is a subunit of Stx2. Stx2, together with Stx1, formed a family of related toxins which are known as shiga toxins. Shiga toxins are mainly produced by the bacteria *S. dysenteriae* and the Shigatoxigenic group of *Escherichia coli*, which includes serotypes O157:H7, O104:H4, and other enterohemorrhagic *E. coli* (EHEC). A total of 3222 outbreak cases (including 39 deaths) have been reported in northern Germany in May through June 2011. The outbreak strain was typed as an enteroaggregative Shiga-toxin-producing *E. coli* O104:H4, producing extended-spectrum beta-lactamase. The toxin has two subunits—A and B. *E. Coli* STX2B is the B subunit. It is a pentamer that binds to specific glycolipids on the host cell, specifically globotriaosylceramide. Following this, the A subunit is internalised and cleaved into two parts. Stx2 has been found to be approximately 400 times more toxic (as quantified by LD50 in mice) than Stx-1. The Stx1 and Stx2 B subunits form a pentameric structure that binds to globotriaosylceramidereceptors on eukaryotic cells and promotes endocytosis

References

- 1.Obata F. *et al.* (2008) Shiga Toxin 2 Affects the Central Nervous System through Receptor Globotriaosylceramide Localized to Neurons. *J Infect Dis.* 198 (9): 1398-406.
- 2.Tironi-Farinati C. *et al.* (2010) Intracerebroventricular Shiga toxin 2 increases the expression of its receptor globotriaosylceramide and causes dendritic abnormalities. *J Neuroimmunol.* 222 (1-2): 48-61.
- 3.Asakura H. *et al.* (2001) Phylogenetic diversity and similarity of active sites of Shiga toxin (stx) in Shiga toxin-producing *Escherichia coli* (STEC) isolates from humans and animals. *Epidemiol Infect.* 127 (1): 27-36.

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