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

Catalog Number: **40019-E08E**

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 polyhistide tag at the N-terminus.

Source: E. coli

Expression Host: E. coli

QC Testing

Purity: > 95 % 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 ℃

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:

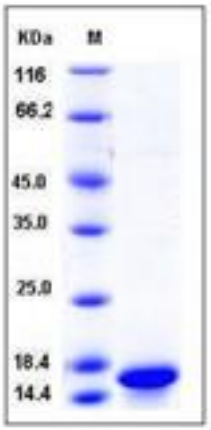
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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.