

Recombinant Cholera Toxin Subunit B, His-tagged

Cat. No. VIB-615 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant *Vibrio cholerae* serotype O1 CTXB protein, comprising amino-acids 22-124 and incorporating a C-terminal His-tag, produced in mammalian HEK293 cells. Cholera toxin subunit B (CTXB) has been used as a marker for neuronal cells due to its high affinity for the GM1 ganglioside cell surface receptor on these cells. CTXB has no toxic activity by itself, and can therefore be used in cell culture.

Tag His

Background

Cholera is an acute, diarrhoeal illness caused by infection of the intestine with the bacterium *Vibrio cholerae*. An estimated 3-5 million cases and over 100,000 deaths occur each year around the world. The infection is often mild or without symptoms, but can sometimes be severe. Approximately one in 10 (5-10%) infected persons will have severe disease characterized by profuse watery diarrhea, vomiting, and leg cramps. In these people, rapid loss of body fluids leads to dehydration and shock. Without treatment, death can occur within hours.

Cholera toxin is an oligomeric complex made up of six protein subunits: a single copy of the A subunit and five copies of the B subunit. Subunit B binds to the cell surface via GM1 gangliosides on the surface of target cells. Once bound, the entire toxin complex is endocytosed by the cell and the cholera toxin A1 (CTA1) chain is released by the reduction of a disulfide bridge. Once inside the cell subunit A activates G protein which then activates adenylate cyclase, eventually leading to enhanced efflux of chloride ions from the intestinal cells, and rapid water loss via the intestine.

Purity >90% by SDS-PAGE

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Sequence Strain	Serotype 01
Formulation	DPBS pH 7.4
Stability	Stability before reconstitution: At ambient temperature: 1 month At +4 centigrade: 12 months At <-20 centigrade: 24 months Stability after reconstitution: At -80 centigrade: 3 months
Freezing	Can be frozen, but avoid multiple freeze/thaw cycles.
Storage	Store lyophilised product at 4 centigrade for short term, or frozen at -20 centigrade - -80 centigrade for long term. Product is shipped at ambient temperature
Concentration	Dependent upon reconstitution volume.
Type	Recombinant
ClassID 1	Infectious Disease
GENE INFORMATION	
Synonyms	Cholera Toxin Subunit B

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