

## Cholera Toxin B-subunit, functional

01-525

50 µg

Cholera toxin, a main enterotoxin, interacts with G proteins and increases cyclic AMP in the intestinal lining to open ion channels. As ions flow into the intestinal lumen (lining), body fluids (mostly water) flows out of the body due to osmosis leading to massive diarrhea as the fluid is expelled from the body. Cholera toxin is a complex consisting of one molecule of A-subunit (27.2 kDa) and 5 molecules of B-subunit (11.6 kDa). It adsorbs to GM1 ganglioside on the surface of target cells by B subunit and penetrates into cells where A subunit is dissociated and processed into A1, which constitutively activates adenylyl cyclase activity of  $\alpha$  subunit of Gs (a kind of GTP-binding protein) by ADP ribosylation activity.

This product was highly purified from purified Cholera toxin produced by *V. cholerae*, Inaba 569B strain by gel-filtration (in the presence of urea) and ion-exchange chromatography.

### Applications

1. Adjuvant for mucosal immunity. Stimulate B-lymphocytes. Vaccine development.
2. Tract tracing in neurological research, taking advantage of GM1 ganglioside binding and retrograde transport.

### Specification

**Purity:** No contamination of A-subunit as examined by SDS-PAGE and the morphological changes of the treated cells

**Form:** 1.0 mg/ml in 20 mM Tris-HCl pH 6.8, 0.2M NaCl, 10% glycerol, sterilized by filtration

**Storage:** -80°C

**Data Link** UniProtKB/Swiss-Prot [P01556](#) (CHTB\_VIBCH)

### References

1. Hirst TR & D'Souza in The *Comprehensive Sourcebook of Bacterial Protein Toxins*. 3<sup>rd</sup> ed. p 270-290, Academic Press (2006)
2. Finkelstein RA & LoSpalluto JJ "Pathogenesis of experimental cholera. Preparation and isolation of cholera toxin and cholera toxinogenoid." *J Exp Med* **130**: 185-202 (1969) PMID: [4978880](#)
3. Iijima Y and Honda T "Enterotoxin of *Vibrio Cholerae*." In *Recent Advances in Marine Biotechnology*, Fingerman M and Nagabhushanam R ed. Science Pub. Inc. **7**: 41(2002)

\* Only for research use, and not for human use.

\* Material Safety Data Sheet is not attached, since the B-subunit is not toxic.

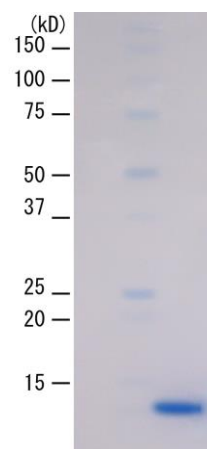


Fig.1 SDS-PAGE of the purified Cholera toxin B-subunit (11.6 kDa)

### Related Products

[# 01-511 Cholera Toxin](#)

[# 01-521 Cholera Toxin A-subunit](#)