

**Cholera Toxin B, Recombinant**
RECOMBINANT PROTEIN*recombinant cholera toxin B*

Catalog Number: PR-14
Quantity: 100 micrograms, 500 micrograms
Format: PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4), no preservative. Sterile-filtered.
Host: *E. coli*

Background: Cholera toxin B (CTB) binds the GM1 (Galactosyl-N-Acetylgalactosaminyl) receptor. This receptor is found on cells such as motoneurons, sympathetic pre-ganglionic neurons, as well as cells in the intestinal epithelium.

Specificity & Preparation: Recombinant CTB was expressed in *E. coli* and purified using affinity chromatography. This product is analyzed by SDS-Page gel and liquid chromatography and tested by GM1-ganglioside binding assay (GM1- ELISA).

Usage: There may be lot-to-lot variation in material; working dilutions must be determined by end user. If this is a new lot, you must assess the proper working dilution before beginning a full experimental protocol.

Storage: Gently spin down material 5-10 seconds in a microfuge before use. Store the material in undiluted aliquots at -20°C . Material should be aliquoted to a convenient volume and quantity to avoid repeated freezing and thawing that can damage the protein content. Under these conditions, the material has a very stable shelf-life. Thawing should be done at room temperature or on ice. The thawed solution should remain on ice until use.



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Selected References:

- Maki Y, Kawata K, Liu Y, Goo KY, Okamoto R, Kajihara Y, Satoh A (2022) Design and synthesis of glycosylated cholera toxin b subunit as a tracer of glycoprotein trafficking in organelles of living cells. *Chemistry* 28(37):e202201253. doi: 10.1002/chem.202201253 PMID: 35604098
- Llewellyn-Smith IJ, Martin CL, Arnolda LF, Minson JB (2000) Tracer-toxins: cholera toxin B-saporin as a model. *J Neurosci Methods* 103(1):83-90. doi: 10.1016/s0165-0270(00)00298-3 PMID: 11074098
- Lai BQ, Qiu XC, Zhang K, Zhang RY, Jin H, Li G, Shen HY, Wu JL, Ling EA, Zeng YS (2015) Cholera toxin b subunit shows transneuronal tracing after injection in an injured sciatic nerve. *PLoS One* 10(12):e0144030. doi: 10.1371/journal.pone.0144030 PMID: 26640949
- Zhou N, Hao Z, Zhao X, Maharjan S, Zhu S, Song Y, Yang B, Lu L (2015) A novel fluorescent retrograde neural tracer: cholera toxin B conjugated carbon dots. *Nanoscale* 7(38):15635-15342. doi: 10.1039/c5nr04361a PMID: 26285001
- Haigh JL, Williamson DJ, Poole E, Guo Y, Zhou D, Webb ME, Deuchars SA, Deuchars J, Turnbull WB (2020) A versatile cholera toxin conjugate for neuronal targeting and tracing. *Chem Commun (Camb)* 56(45):6098-6101. doi: 10.1039/d0cc01085e PMID: 32355935

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