

PRODUCT INFORMATION



Cholera Toxin B Subunit (recombinant) - 488

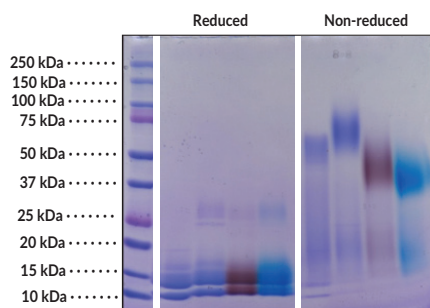
Item No. 46157

Overview and Properties

Synonyms:	Cholera Enterotoxin B Chain, Cholera Enterotoxin Gamma Chain, Cholera Enterotoxin Subunit B, Cholera toxin B, CTB, CTxB
Source:	Recombinant CTB expressed in HEK293 cells
Amino Acids:	22-124
Uniprot No.:	P01556
Molecular Weight:	~11 kD (monomer); ~53 kD (pentamer)
Storage:	-20°C (as supplied)
Stability:	≥2 years
Ex./Em. Max:	492/513 nm
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized form, from water
Protein	
Concentration:	1 mg/ml after resuspension in 100 µl of water

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: Cholera Toxin B Subunit (recombinant)
Lane 2: Cholera Toxin B Subunit (recombinant) - Biotin
Lane 3: Cholera Toxin B Subunit (recombinant) - 488 (Item No. 46157)
Lane 4: Cholera Toxin B Subunit (recombinant) - 650

SDS-Page Analysis. Reduced and non-reduced protein samples were run on SDS-PAGE, then stained and destained before imaging. The degree of labeling (DOL) was 2-5 as calculated by UV/VIS spectroscopy.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

Cholera Toxin B Subunit (recombinant) - 488 is a fluorescently labeled form of cholera toxin B subunit, a multimeric endotoxin produced by *V. cholerae*.^{1,2} The non-toxic pentameric B subunit of cholera toxin binds to ganglioside G_{M1} (Item No. 19579), which acts as a receptor on mammalian cells, and facilitates entrance of the toxic A subunit into cells.^{1,3} Cholera toxin B subunit (CTB) has been widely used in glycosphingolipid and membrane biology to study lipid rafts, nanodomain assembly, membrane organization and curvature, clathrin-independent endocytosis, and retrograde trafficking in the central nervous system (CNS) either alone or conjugated to a reporter.⁴⁻⁶ It has also been used as a carrier protein and an adjuvant, where it increases IgA immune responses, antigen presentation, B cell differentiation, and T cell proliferation.^{7,8} Cayman's Cholera Toxin B Subunit (recombinant) - 488 can be used in cell culture at 1-4 µg/ml and for ELISA and G_{M1} binding assay applications. It displays excitation/emission maxima of 492/513 nm, respectively.

References

1. Cho, J.A., Chinnappen, D.J.F., Amar, E., *et al.* Insights on the trafficking and retro-translocation of glycosphingolipid-binding bacterial toxins. *Front. Cell. Infect. Microbiol.* **2**(51), (2012).
2. Baldauf, K.J., Royal, J.M., Hamorsky, K.T., *et al.* Cholera toxin B: One subunit with many pharmaceutical applications. *Toxins (Basel)* **7**(3), 974-996 (2015).
3. Turnbull, W.B., Precious, B.L., and Homans, S.W. Dissecting the cholera toxin-ganglioside G_{M1} interaction by isothermal titration calorimetry. *J. Am. Chem. Soc.* **126**(4), 1047-1054 (2004).
4. Blank, N., Schiller, M., Krienke, S., *et al.* Cholera toxin binds to lipid rafts but has a limited specificity for ganglioside GM1. *Immunol. Cell Biol.* **85**(5), 378-382 (2007).
5. Kenworthy, A.K., Schmieder, S.S., Raghunathan, K., *et al.* Cholera toxin as a probe for membrane biology. *Toxins (Basel)* **13**(8), 543 (2021).
6. Luppi, P.-H., Fort, P., and Jouvett, M. Iontophoretic application of unconjugated cholera toxin B subunit (CTb) combined with immunohistochemistry of neurochemical substances: A method for transmitter identification of retrogradely labeled neurons. *Brain Res.* **534**(1-2), 209-224 (1990).
7. Siriwardhana, C., Bajracharya, A., Seal, F., *et al.* Evaluation of cholera toxin B subunit as a novel carrier protein for polysaccharide conjugate vaccines. *Vaccines (Basel)* **13**(11), 1159 (2025).
8. Holmgren, J., Lycke, N., and Czerkinsky, C. Cholera toxin and cholera B subunit as oral-mucosal adjuvant and antigen vector systems. *Vaccine* **11**(12), 1179-1184 (1993).

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1180 EAST ELLSWORTH RD

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