

Cholera toxin

Cat. No.:	HY-P1446
CAS No.:	9012-63-9
Target:	Adenylate Cyclase
Pathway:	GPCR/G Protein
Storage:	Store at 4°C, do not freeze

Cholera toxin

SOLVENT & SOLUBILITY

In Vitro	H ₂ O : ≥ 10 mg/mL * "≥" means soluble, but saturation unknown.
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BIOLOGICAL ACTIVITY

Description	Cholera toxin (Cholera toxin), an AB(5)-subunit toxin, enters host cells by binding the ganglioside GM1 at the plasma membrane (PM) and travels retrograde through the trans-Golgi Network into the endoplasmic reticulum (ER) ^[1] . Cholera toxin activates adenylate cyclase by catalyzing ADP-ribosylation of Gs alpha, the stimulatory guanine nucleotide-binding protein ^[2] .
In Vitro	In the ER, a portion of Cholera toxin, the enzymatic A1-chain, is unfolded by protein disulfide isomerase and retro-translocated to the cytosol by hijacking components of the ER associated degradation pathway for misfolded proteins ^[1] . Cholera toxin acts as an ADP-ribosyltransferase to disrupt intracellular signaling in the target cell. Cholera toxin moves by vesicle carriers from the cell surface to the endoplasmic reticulum (ER) of an intoxicated cell ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cancer Commun (Lond). 2021 Jul;41(7):576-595.
- Clin Transl Med. 2022 Jul;12(7):e989.
- Int J Biol Macromol. 2023 Jul 12;125816.
- Cell Biosci. 2021 Jul 27;11(1):146.
- Hum Cell. 2023 Mar 3.

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REFERENCES

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- [1]. Kellner A, et al. A binding motif for Hsp90 in the A chains of ADP-ribosylating toxins that move from the endoplasmic reticulum to the cytosol. Cell Microbiol. 2019;21(10):e13074.
- [2]. Tsai SC, et al. Stimulation of cholera toxin enzymatic activities by GTP and two soluble proteins purified from bovine brain. J Biol Chem. 1988;263(4):1768-1772.
- [3]. Wernick NL, et al. Cholera toxin: an intracellular journey into the cytosol by way of the endoplasmic reticulum. Toxins (Basel). 2010;2(3):310-325.
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Caution: Product has not been fully validated for medical applications. For research use only.

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