

Recombinant *Vibrio cholerae* serotype O1 ctxB Protein, His-tagged

Cat. No. ctxB-756V **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant <i>Vibrio cholerae</i> serotype O1 ctxB protein with His tag was expressed in HEK293.
Species	<i>Vibrio cholerae</i> serotype O1
Source	HEK293
ProteinLength	124
Description	The holotoxin (cholera toxin) consists of a pentameric ring of B subunits whose central pore is occupied by the A subunit. The A subunit contains two chains, A1 and A2, linked by a disulfide bridge. The B subunit pentameric ring directs the A subunit to its target by binding to the GM1 gangliosides present on the surface of the intestinal epithelial cells. It can bind five GM1 gangliosides. It has no toxic activity by itself. After binding to gangliosides GM1 in lipid rafts, through the subunit B pentamer, the holotoxin and the gangliosides are internalized. The holotoxin remains bound to GM1 until arrival in the ER. The A subunit has previously been cleaved in the intestinal lumen but the A1 and A2 chains have remained associated. In the ER, the A subunit disulfide bridge is reduced, the A1 chain is unfolded by the PDI and disassembled from the rest of the toxin. Then, the membrane-associated ER oxidase ERO1 oxidizes PDI, which releases the unfolded A1 chain. The next step is the retrotranslocation of A1 into the cytosol. This might be mediated by the protein-conducting pore SEC61. Upon arrival in the cytosol, A1 refolds and avoids

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	proteasome degradation. In one way or another, A1 finally reaches its target and induces toxicity.
Form	Lyophilized
Molecular Mass	13.5 kDa
AA Sequence	MIKLKFGVFFTVLLSSAYAHGTPQNITDLCAEYHNTQIYTLNDKIFSYTESLAGKREMA IITFKNGAIFQVEVPGSQHIDSQKKAIERMKDTRLRIAYLTEAKVEKLCVWNNKTPHAIA AISMAN
Purity	> 98%
Applications	WB; ELISA; FACS; FC
Stability	This bioreagent is stable at 4 centigrade (short-term) and -70 centigrade(long-term). After reconstitution, sample may be stored at 4 centigrade for 2-7 days and below -18 centigrade for future use.
Storage	At -20 centigrade.
Concentration	1 mg/mL
Storage Buffer	PBS (pH 7.4-7.5). Sterile-filtered colorless solution.
Reconstitution	Reconstitute in sterile distilled H ₂ O to no less than 100 µg/mL; dilute reconstituted stock further in other aqueous solutions if needed. Please review COA for lot-specific instructions. Final measurements should be determined by the end-user for optimal performance.

GENE INFORMATION

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Official Symbol	ctxB
Synonyms	ctxB; toxB; VC_1456