

## Cholera Toxin

<b>Product code</b>	01-511
<b>Size</b>	100µg
<b>Storage</b>	-80°C. Avoid freeze-thaw cycles.
<b>Product Description</b>	This toxin was highly purified from growth medium of <i>Vibrio cholerae</i> , 569B strain.
<b>Concentration</b>	1.0 mg/ml
<b>Buffer</b>	50 mM Tris-HCl (pH7.5) 0.2 M NaCl 1mM Na <sub>2</sub> EDTA, 10% Glycerol
<b>Purity</b>	More than 90% purity (see below; SDS-PAGE)
<b>Activity test</b>	Addition of cholera toxin at ~ 1 ng/ml to the culture medium changed more than 50% of CHO cells into spindle shape.
<b>Application</b>	<ol style="list-style-type: none"> <li>1. Detection of GTP-binding protein G<sub>s</sub></li> <li>2. Detection of a low molecular weight GTP-binding protein, ARF</li> <li>3. Manipulation of culture cells to increase cellular concentration of cyclic AMP</li> <li>4. Growth supplement for many animal cells including iPS cells, tumor , NIH3T3 and MCF10A cells</li> </ol>
<b>Special notes</b>	<p><b>Need certificate of proper use of the bacterial toxin before shipping</b></p> <p><b>See Precautions</b></p>
<b>Background</b>	<p>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 kD) and 5 molecules of B subunits (11.6 kD). It adsorbs to GM1 ganglioside on the surface of target cells by the B subunit and penetrates into cells where A subunit is dissociated and processed into A1, which constitutively activates adenylyl cyclase activity of α subunit of G<sub>s</sub> (a kind of GTP-binding protein).</p>
<b>Data Link</b>	UniProtKB <a href="#">Cholera toxin</a>
Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.	

## Data Images: #01-511 Cholera Toxin

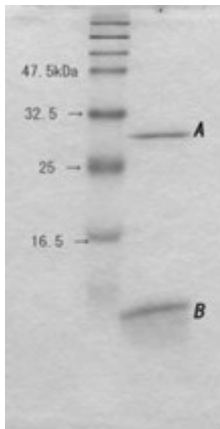


Fig.1 SDS-PAGE of Cholera toxin.

A and B indicate the subunits A and B, respectively.

Fig.1. SDS-PAGE of Cholera toxin

## Precautions

### Health Hazard Data

The LD<sub>50</sub> in mice is 250 µg/kg when injected intravenously. It is believed that human is more susceptible than mouse.

### Emergency Procedure

If the toxin is accidentally swallowed, drink large amounts of water or hypotonic drinks, and ask a physician for emergency treatments of cholera diarrhea.

If skin pricking occurs accidentally, bleed and perform vigorous flushing of the area with large amounts of water. If injection occurs, seek a physician's advice immediately. Hyperimmune globulin, which is not commercially available, is the only antidote.

### Handling

It should be handled carefully by persons with expertise in knowledge and techniques for the safe handling of Cholera toxin. Wear protective gloves when handling the toxin. Avoid contact with open wounds. Wash thoroughly any area of the body that makes contact with the toxin. It is recommended that persons who handle the toxin are immunized by diphtheria vaccine.

### Inactivation

The toxin can be inactivated by boiling for 30 min.

**References:** This product was used in the following Ref.

1. Hirst TR and D'Souza JM In The Comprehensive Sourcebook of Bacterial Protein Toxins Alouf J and

Popoff M ed. 3rd edn.

p. 270-290 Academic Press (2006)

2. Finkelstein RA and LoSpalluto JJ "Pathogenesis of experimental cholera. Preparation and isolation of cholera toxin and cholera toxin B subunit." 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)

**Related product:**

# 01-521 Cholera toxin subunit A

# 01-525 Cholera toxin subunit B

**Request for the Certificate for Purchase of bacterial toxins.**

BioAcademia Inc. requests the following document to certify that the bacterial toxins listed below to be used for research purpose only in compliance with the regulations of the local and national governments.

**List of bacterial Toxins:**

01-511 Cholera Toxin

**Product Name:** Cholera Toxin

**BioAcademia Product Code:** 01-511

**Size (volume or weight per vial):** 100µg

**Amount (number of vial):**

I certify that the above information is correct and Toxins are to be dealt as stated above.

\_\_\_\_\_ Signed by (name)

**Position of the signee:**

**Name of Institute or Company:**

**Address :**

**Telephone:**

**E-mail address:**