

Pertussis Toxin from *Bordetella pertussis*

Product code	01-503
Size	25 µg
Storage	-80°C. Avoid freeze-thaw cycles.
Product Description	<p>Pertussis toxin (PT) is a protein-based AB₅-type exotoxin produced by <i>Bordetella pertussis</i>. PT catalyzes the ADP-ribosylation of the α subunits of the heterotrimeric guanine nucleotide regulatory proteins Gi, Go, and Gt and prevents intracellular signal transduction involving the G proteins. PT consists of one molecule of each S1 (26 kDa), S2 (22 kDa), S3 (22 kDa), S5 (12 kDa) and two molecule of S4 (12 kDa).</p> <p>This product was highly purified from <i>Bordetella pertussis</i> strain Tohama by the method of Skelton & Wong¹. Cytotoxicity of the PT was confirmed by morphological alteration of CHO cells after treatment with 0.1 ng/ml of PT (see the Figure below).</p>
Concentration	0.05~0.5 mg/ml
Buffer	10% glycerol 10 mM phosphate buffer (pH 7.4), 137 mM NaCl
Purity	Over 90% by SDS-PAGE (Silver staining)
Application	<ol style="list-style-type: none"> 1. Studies on the signal transduction of the trimeric GTP binding proteins. 2. Therapeutic role in treating a number of diseases including hypertension, viral and autoimmune inhibitions. 3. Used for producing model mice for multiple sclerosis
Health Hazard Data	The LD ₅₀ of pertussis toxin in mice is 15~21 µg/kg by intraperitoneal injection.
Emergency Procedure	<p>If the toxin is accidentally swallowed, induce vomiting. Since the toxin is unstable in acidic conditions, it will be degraded in stomach. 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 is the only antidote.</p> <p>However, persons immunized with Pertussis (whooping cough) vaccine will unlikely have long term adversary effects.</p>
Handling	<p>It should be handled carefully by persons with expertise in knowledge and techniques for the safe handling of bacterial toxins. Wear protective gloves on 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 pertussis vaccine.</p>
Inactivation	The toxin can be inactivated by boiling for 30 min.
Data Link	<p>UniProtKB P04977 (TOX1_BORPE), P04978 (TOX2_BORPE), P04979 (TOX3_BORPE), P0A3R5 (TOX4_BORPE), P04981 (TOX5_BORPE)</p>
<p>Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.</p>	

Data Images: 01-503 Pertussis Toxin from *Bordetella pertussis*

Fig.1 SDS-PAGE of PT (silver staining)

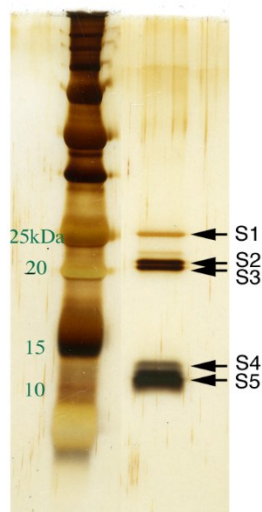
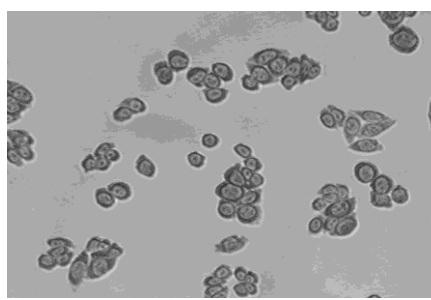
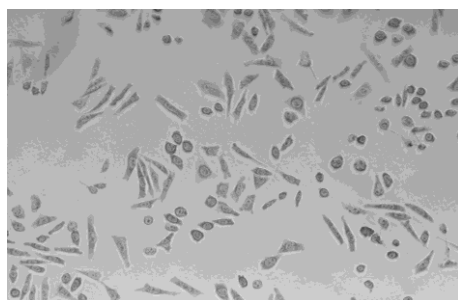


Fig.2 Assay: 0.1 ng/ml of PT in the culture medium of CHO cells at 37°C for 17 hr)

PT (—), $\times 10$

PT (0.1ng/ml), $\times 20$



Left: Control culture without PT

Right: CHO cells treated with PT at 0.1 ng /ml

References:

1. Skelton SK and Wong KH "Simple, efficient purification of filamentous hemagglutinin and pertussis toxin from *Bordetella pertussis* by hydrophobic and affinity interaction." *J. Clin Microbiol* **28**:1062-1065 (1990) PMID: [2351723](https://pubmed.ncbi.nlm.nih.gov/2351723/)
2. Alouf JE & Popoff MR (Ed.) The comprehensive Sourcebook of Bacterial Protein Toxins 3rd Ed. Academic Press (2006)

Related product:

64-030 Anti-Pertussis Toxin antibody, rabbit serum

64-031 Anti-Pertussis Toxin antibody, rabbit polyclonal