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# Product Information

**Pertussis toxin**
**from *Bordetella pertussis***

Catalog Number **P7208**
Storage Temperature 2–8 °C

CAS RN 70323-44-3
Synonyms: Islet Activating Protein, Pertussigen, Leukocytosis-Promoting Factor, Lymphocytosis Promoting Factor, Histamine-Sensitizing Factor, Pertussis Exotoxin, PTX, and PT

## Product Description

Pertussis toxin is a protein isolated from the Gram-negative coccobaccillus, *Bordatella pertussis*. The toxin is released in an inactive form. When the pertussis toxin B oligomer binds to the cell membrane, the S1 subunit of its A protomer becomes activated, perhaps through the action of glutathione and ATP.

Pertussis toxin causes potentiation of insulin secretion from mammalian pancreatic islets,[1,2] catalyzes the ADP-ribosylation of the protein present in cell membrane preparations from human red blood cells,[3] promotion of leukocytosis activity and agglutination activity,[4] promotion of lipolysis on adipocytes,[5] inhibition of epinephrine induced hyperglycemia,[6] inhibition of histamine release.[7] Pertussin toxin adjuvant activity is associated with enhanced cytokine production.[8]

Molecular mass:[9] ~117 kDa (ultracentrifugation)
Pertussis toxin consists of 5 subunits combined in a 1:1:1:2:1 ratio, with the following molecular masses:[10]

S1 = 26,017 Da
S2 = 21,839 Da
S3 = 21,751 Da
S4 = 12,061 Da
S5 = 11,747 Da

This product is supplied as a lyophilized powder. When reconstituted with 500 µl of water each vial will contain 0.05 M sodium phosphate, pH 7.2, with 0.5 M sodium chloride.

This preparation migrates as five distinct bands, as described in the literature,[9] when run on polyacrylamide SDS-urea gels.

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices. Pertussis toxin is a potent neurotoxin, considered a biohazard, and should be handled with care.

## Preparation Instructions

This pertussis toxin product has not been preactivated with ATP. Preincubate pertussis toxin in the presence of 1–5 mM ATP and 1–5 mM DTT for *in vitro* use with cell membranes. Preincubation with ATP and DTT is not recommended for use with intact cells or *in vivo* use.[11,12]

## Storage/Stability

After reconstitution of the lyophilized powder with water, bovine serum albumin at a concentration of 1–5 mg/ml may be added as a stabilizer. The resulting suspension should be made uniform by gentle mixing prior to use. DO NOT STERILIZE BY FILTRATION, as this will result in loss of material. DO NOT FREEZE!!! Under sterile conditions this solution remains active for at least 6 months at 4 °C. Solutions at pH 7.0, were reported to remain active up to 50 °C for 15 minutes.[13]

## References

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