

Pasteurella multocida Toxin (Active)

01-507 50µg

Storage: Ship at 4°C or -20°C and store at -20°C
(or -80°C for long period) .

Applications:

- 1) For the studies on the GTP trimer bound protein- dependent signaling pathway
- 2) As a PMT antigen for immunological assays such as ELISA, western blotting and dot blotting.

Form: 50% glycerol, 5mM Tris-HCl(pH7.5), 0.1M NaCl

Purity: More than 90% purity by SDS-PAGE (CBB staining)

Protein Concentration: 254 µg /ml

Biological Activity Assayed: See Figures below. *Research use only, not for human use.

Background: *Pasteurella multocida* toxin (PMT) is produced by a gram-negative bacillus, *Pasteurella multocida*. PMT activates the Gq and G_{12/13} dependent signaling pathways. Gq and G_{12/13} are alpha subunits of the GTP trimer bound protein of animal cells. It does not activate the highly related G₁₁-dependent pathways. This toxin binds to a ganglioside-type cell surface receptor, acts intracellularly after having been internalized through an endocytic pathway, and has pleiotropic effects on cell physiology. Therefore it does not function on receptor-deficient cells or cells defective in the endocytosis pathway.

PMT is encoded by the *toxA* gene of *P. multocida*. This product is derived from a recombinant ToxA with His6-tag at N-termina expressed in *E. coli*. Its molecular weight is 145 kDa (Fig.1)

*Research use only, not for human use

Data Link UniProtKB/Swiss-Prot [P17452](#) (TOXA_PASMU)

References:

1. Orth JH *et al* "Pasteurella multocida toxin-induced activation of RhoA is mediated via two families of G{alpha} proteins, G{alpha}q and G{alpha}12/13." *J.BiolChem* **280**:36701-36707(2005) PMID: [16141214](#)
2. Wilson BA and Ho M "Pasteurella multocida toxin as a tool for studying Gq signal transduction." *Rev Physiol Biochem Pharmacol* **152**:93-109(2004) PMID: [15455260](#)

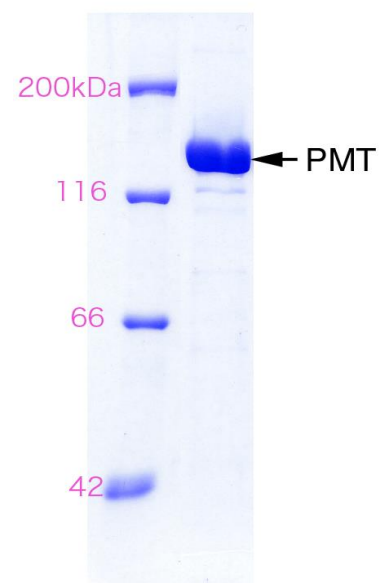


Fig.1 SDS-polyacrylamide gel electrophoresis of PMT

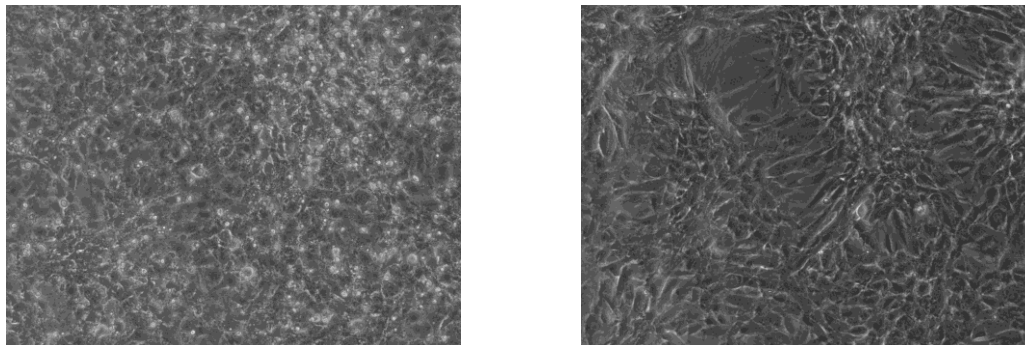


Fig. 2. Assay of Biological activity of PMT:

Mouse embryonic cells (Swiss 3T3) were treated with PMT at 10 ng/ml at 37°C for 18 h.

Left; untreated cells.

Right, Treated cells; Foci formation by aggregation of cells was observed.

MATERIAL SAFETY DATA SHEET

Hazardous Ingredients: Recombinant *Pasteurella multocida* toxin with His6-tag

(MGH6DYDIPTTENLYFQGAHMGIQ) attached to N-terminal of the toxin. (first methionin removed).

Physical Properties ; The material is provided as liquid solution in 50% glycerol, 5mM Tris-HCl (pH7.5), and 0.1M NaCl

Fire and Explosion Hazard Data: Not applicable

Health Hazard:

The LD50 in **rats** is 0.5 μ g/kg when injected parenterally (Cheville, N.F. and Rimler, R.B., *Vet. Pathol.* **26**: 148-157, 1989). Toxicity data for humans is not available.

Target organ(s): Liver and Lungs. If topical contact occurs, flush with copious amounts of water. For internal exposure, consult a physician.

Spill or Leak Procedures:



If a spill occurs, cover with a damp cloth or paper towel. Wipe up and autoclave this material. Further, clean the area with 5% bleach. Solutions may be inactivated by autoclaving at 121°C and 15 psi for 15 minutes or by heating to 56°C for 30 minutes.

Special Protection Information:

Wear safety glasses, protective clothing, and rubber or latex gloves. and when handling hypodermic needles avoid inadvertent selfinoculation. Do not pipette by mouth. Avoid inhalation of this product.

Special Procedures:

This product is to be used by skilled personnel in a laboratory setting only. Good laboratory technique should be employed. This product is for research purposes only. It is not for use in humans and is not to be used as a diagnostic agent

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