

Pasteurella multocida Toxin

Product code	01-507
Size	50 µg
Storage	-20°C -80°C (for longer storage) Avoid freeze-thaw cycles
Product Description	This product is derived from a recombinant ToxA with His6-tag at N-termina expressed in <i>E. coli</i> . Its molecular weight is 145 kDa (Fig.1)
Concentration	0.254 mg/ml (Lot.3)
Buffer	50% glycerol, 5mM Tris-HCl(pH7.5), 0.1M NaCl
Purity	Over 90% by SDS-PAGE (CBB staining)
Application	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.
Biological Activity	See Figures below
Background	<i>Pasteurella multocida</i> toxin (PMT) is produced by a gram-negative bacillus, <i>Pasteurella multocida</i> . 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 G ₁₁ -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 <i>tox</i> A gene of <i>P. multocida</i> .
Health Hazard Data	The LD ₅₀ in rats is 0.5 µg/kg when injected parenterally (Cheville, N.F. and Rimler, R.B., <i>Vet. Pathol.</i> 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.
Emergency Procedure	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.
Handling	Wear safety glasses, protective clothing, and rubber or latex gloves. and when handling hypodermic needles avoid inadvertent selfinoculation. Avoid inhalation of this product. This product is to be used by skilled personnel in a laboratory setting only. Good laboratory technique should be employed.
Inactivation	This product may be inactivated by autoclaving at 121°C and 15 psi for 20 minutes * It is not for use in humans and is not to be used as a diagnostic agent
Data Link	P17452 (TOXA_PASMU)
Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.	

Data Images: 01-507 Pasteurella multocida Toxin

Fig.1 SDS-polyacrylamide gel electrophoresis of PMT

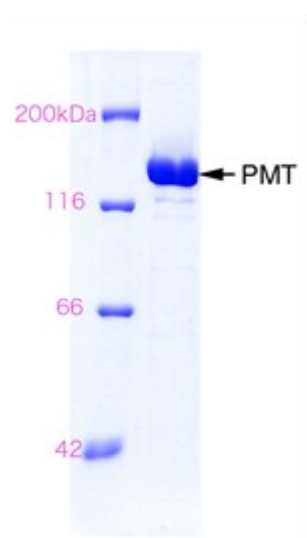
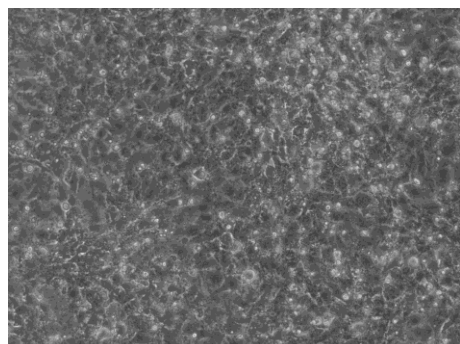
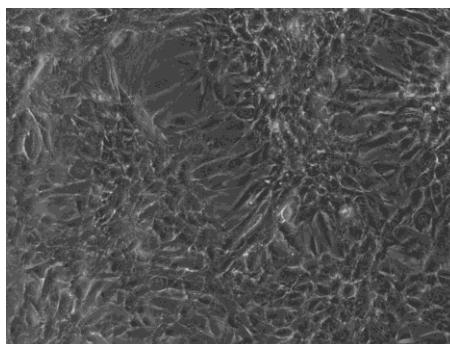


Fig. 2. Assay of Biological activity of PMT

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.

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.Biol.Chem.***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](#)