

Product Specification Sheet

Anti-B. pertussis Toxin S1 Antibody

□ Cat. # PTOX43-M

Monoclonal Anti-B. pertussis Toxin subunit S1, IgG unlabeled

SIZE: 100 ul

Pertussis toxin (PT) is a protein-based AB5-type exotoxin produced by the bacterium *Bordetella pertussis*, which causes whooping cough. PT is involved in the colonization of the respiratory tract and the establishment of infection. PT may have a therapeutic role in treating a number of common human ailments, including hypertension, viral inhibition, and autoimmune inhibition.

A large group of bacterial exotoxins are referred to as "A/B toxins", in essence because they are formed from two subunits. The "A" subunit possesses enzyme activity, and is transferred to the host cell following a conformational change in the membrane-bound transport "B" subunit. Pertussis toxin is an exotoxin with six subunits (named S1 through S5—each complex contains two copies of S4). Purified protein consists of five dissimilar subunits: S1 (28 kDa), S2 (23 kDa), S3 (22 kDa), S4 (11.7 kDa) and S5 (9.3 kDa), in a molar ratio of 1:1:1:2:1. The subunits are arranged in A-B structure: the A component is enzymatically active and is formed from the S1 subunit, while the B component is the receptor-binding portion and is made up of subunits S2–S5. The subunits are encoded by *ptx* genes encoded on a large PT operon that also includes additional genes that encode Ptl proteins. Together, these proteins form the PT secretion complex.

B. pertussis expresses two forms of a rough-type lipooligosaccharide (LOS), which have been referred to as LOS A and LOS B. The two forms of LOS can be resolved as two distinct molecular weight species in silver stained sodium dodecyl sulfate-polyacrylamide gels of protease-treated *B. pertussis* cell lysates. The difference between the two forms of LOS has been shown to be due to three additional N-acetyl amino sugars in the core oligosaccharide moiety of LOS A that are not present in LOS B. The structure and biological activity of *B. pertussis* LOS are similar to those of LOSs of other gram-negative bacteria that contain lipid A and a core oligosaccharide moiety containing 2-keto-3-deoxyoctonate, exhibiting lethal toxicity in mice, pyrogenicity in rabbits, and mitogenicity in cell cultures.

Source of Antigen and Antibodies

Antigen	Purified <i>B. pertussis</i> Toxin
Ab Host/type	Mouse, monoclonal IgG1 (#PTOX43-M) in PBS, pH 7.4, 0.05% azide at 1 mg/ml or see lot sp. concn
2-ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40120 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

□ 100 ul □ solution □ lyophilized powder

Supplied in **Buffer:** PBS+0.05% azide,

Reconstitute powder in pbs

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Antibody is suitable for ELISA or IF. Antibody dilution should be tested for a given application. Recommended dilution is 1:500-1:5000 using 100-200 ng/well toxin or S1 protein.

Western blots identifies a band at approximately 28 kDa corresponding to the S1 subunit. Recommended dilution is 1:500-1:2000.

Specificity & Cross-reactivity

Monoclonal antibody #PTOX43-M reacts with the S1 subunit of pertussis toxin as well as with the intact toxin. The antibody is recommended for ELISA for measuring of pertussis toxin and the subunit S1.

References: Caroff M (1990) *J. Bacteriol.* 172, 1121-1128; LeDur A (1980) *J. Bacteriol.* 143, 78-88; Li Z (1988) *Inf. Immunity Infect. Immunity* 56, 699-702; Pepler MS (1984) *Infect. Immunity* 43, 224-232

*This product is for In vitro research use only.

Related material available from ADI

Catalog# ProdDescription

PTOX15-N-50 Pertussis Toxin (islet activating protein, *B. pertussis*), purified

PTOX15-S Rabbit Anti-*B. pertussis* Toxin IgM negative control for ELISA, PTOX16-N-50 *Bordetella Pertussis* whole cell antigens extracts (Tohama 1)

PTOX16-S Rabbit Anti-*B. pertussis* Toxin IgM positive control for ELISA, PTOX17-S Rabbit Anti-*B. pertussis* Toxin IgG negative control for ELISA,

PTOX21-S G. Pig Anti-*B. pertussis* Toxin IgG negative control for ELISA, PTOX22-S G. Pig Anti-*B. pertussis* Toxin IgG positive control for ELISA, PTOX23-S G. Pig Anti-*B. pertussis* Toxin IgM negative control for ELISA, PTOX24-S G. Pig Anti-*B. pertussis* Toxin IgM positive control for ELISA, PTOX31-S Mouse Anti-*B. pertussis* Toxin IgG positive control for ELISA, PTOX32-S Mouse Anti-*B. pertussis* Toxin IgM negative control for ELISA, PTOX33-S Mouse Anti-*B. pertussis* Toxin IgG negative control for ELISA, PTOX34-S Mouse Anti-*B. pertussis* Toxin IgG positive control for ELISA,

PTOX35-N-10 Pertussis Toxin A promoter (*B. pertussis*), purified PTOX36-N-10 Pertussis Toxin B promoter (*B. pertussis*), purified

PTOX41-F Monoclonal Anti-*B. pertussis* LPS (Los-A) IgG-FITC Conjugate

PTOX41-M Monoclonal Anti-*B. pertussis/B. bronchiseptica* LPS (Los-A) IgG

PTOX42-M Monoclonal Anti-*B. pertussis* Toxin IgG unlabeled PTOX43-M Monoclonal Anti-*B. pertussis* Toxin subunit S1, IgG unlabeled PTOX44-M Monoclonal Anti-*B. pertussis* Toxin subunit S2, IgG unlabeled PTOX45-M Monoclonal Anti-*B. pertussis* Toxin subunit S3, IgG unlabeled

PTOX43-Mouse-Anti-Pertussin-Toxin-IgG 150615A