

Product Specification Sheet

Anti-B. pertussis Toxin IgM negative and positive controls

<input type="checkbox"/> Cat. # PTOX15-S	Rabbit Anti-B. pertussis Toxin IgM negative control for ELISA, IF, Western	SIZE: 1 ml
<input type="checkbox"/> Cat. # PTOX16-S	Rabbit Anti-B. pertussis Toxin IgM positive control for ELISA, IF, Western	SIZE: 1 ml

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). 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> Toxoid
Ab Host/type	Rabbit, polyclonal antiserum (#PTOX15-S) diluted in in PBS, pH 7.4, 0.05% azide
2-ab	Goat Anti-rabbit IgM-HRP cat # 20220 (AP, biotin, FITC conjugates also available)
-ve control	Cat # PTOX16-S, Rabbit non-immune) control serum suitable for ELISA, Western, IHC as -ve control

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

Rabbit anti-B. pertussis IgM negative and positive controls were tested in ELISA using ADI kit # 960-150-PRG. Further dilution of the controls in a given technique (ELISA, IF, or Western) should be optimized from undiluted to up to 1:1000.

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; Peppler MS (1984) *Infect. Immunity* 43, 224-232

*This product is for In vitro research use only.

Related material available from ADI

Recombinant PTX, FHA, pertactin, Antibodies and ELISA kits

Catalog#	ProdDescription
960-110-PHG	Human Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgG, 96 tests, Quantitative
960-120-PHG	Mouse Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgG ELISA kit, 5x96 tests, Quantitative
960-130-PMG	Mouse Anti-B. pertussis toxin/toxoid IgG ELISA kit, 2x96 tests, Quantitative
960-140-PHM	cat# changed to #960-140-PMM; Mouse Anti-B. pertussis IgM ELISA kit
960-140-PMM	Mouse Anti-B. pertussis toxin/toxoid IgM ELISA kit, 2x96 tests, Quantitative
960-150-PRG	Rabbit Anti-B. pertussis toxin/toxoid IgG ELISA kit, 2x96 tests, Quantitative
960-160-PRM	Rabbit Anti-B. pertussis toxin/toxoid IgM ELISA kit, 2x96 tests, Quantitative
960-170-PMG	G. pig Anti-B. pertussis toxin/toxoid IgG ELISA kit, 2x96 tests, Quantitative
960-180-PMM	G. pig Anti-B. pertussis toxin/toxoid IgM ELISA kit, 2x96 tests, Quantitative
960-200-PHA	Human Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgA ELISA kit, 96 tests, Quantitative
960-200-PHA	Monkey Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgA ELISA kit, 5x96 tests, Quantitative
960-210-PHG	Monkey Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgG ELISA kit, 5x96 tests, Quantitative
960-220-PHM	Human Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgM ELISA kit, 96 tests, Quantitative
960-220-PHM	Monkey Anti-B. pertussis antigens (Pertussis toxin, FHA and LPS) IgM ELISA kit, 5x96 tests, Quantitative
960-230-PGG	Mouse Anti-B. pertussis Pertactin IgG ELISA kit, 2x96 tests
960-240-PRG	Rabbit Anti-B. pertussis Pertactin IgG ELISA kit, 2x96 tests
960-250-PHG	Human Anti-B. pertussis Pertactin IgG ELISA kit, 5x96 tests
960-260-PMG	Monkey Anti-B. pertussis Pertactin IgG ELISA kit, 5x96 tests
PTOX1516-S	130219A