ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Pasteurella multocida Toxin (PMT)

½ **Cat.** # PMT15-N-10 Purified Pasteurella multocida Toxin (146 kda) **SIZE**: 10 ug

Pasteurella multocida is a Gram-negative, nonmotile, penicillin-sensitive coccobacillus belonging to the Pasteurellaceae family. Strains belonging to the species are currently classified into five serogroups (A, B, D, E, F) based on capsular composition and 16 somatic serovars (1-16). P. multocida is the cause of a range of diseases in mammals and birds, including fowl cholera in poultry, atrophic rhinitis in pigs, and bovine hemorrhagic septicemia in cattle and buffalo. It can also cause a zoonotic infection in humans, which typically is a result of bites or scratches from domestic pets. Many mammals (including domestic cats and dogs) and birds harbor it as part of their normal respiratory microbiota.

P. multocida causes a range of diseases in wild and domesticated animals, as well as humans. P. multocida strains that cause **fowl cholera in poultry** typically belong to the **serovars 1, 3, and 4**. The P. multocida serotype-1 is most associated with avian cholera in North America. P. multocida causes atrophic rhinitis in pigs; it also can cause pneumonia or bovine respiratory disease in cattle. In humans, P. multocida is the most common cause of infection from wound infections after dog or cat bites. Infection with Pasteurella multocida is a significant cause of clinical disease in **rabbits**. Snuffles, a highly contagious pasteurellosis of rabbits primarily affects the upper respiratory tract with potential fatal consequences, such as septicemia, pneumonia, chronic rhinitis, and otitis media as well as multiple abscesses. Different strains of P. multocida have been isolated from rabbits. **A:12 is the most common in rabbits in the U.S., but A:3 and other A and D serotypes exist**. More severe disease has been associated with A:3 and D strains. Both capsular types D and A have been shown to produce toxin in rabbits.

P. multocida expresses a range of virulence factors including a polysaccharide capsule and the variable carbohydrate surface molecule, lipopolysaccharide (LPS). Strains that cause atrophic rhinitis in pigs are unique as they also have P. multocida toxin (PMT) residing on a bacteriophage. PMT is responsible for the twisted snouts observed in pigs infected with the bacteria. Significant global economic losses in animal production caused by growth retardation and nutritional deficiencies are often due to respiratory diseases induced by P. multocida infections.

Many P. multocida serogroup D strains produce P. multocida toxin (PMT), a dermonecrotic toxin, which is responsible for the clinical signs of PAR in swine. PMT has been considered a suitable, effective molecule for vaccination. PMT is 146 kda Dermonecrotic (1285-aa).

Source of Antigen and Antibodies

P. multocida toxin (PMT) is expressed in E. coli and purified using proprietary technique (>90%, ~150 kda). It is supplied in 10 mM Tris, pH 8.3, 0.1M NaCl, 0.1% sucrose or lyophilized in the same buffer. Reconstitute powder in water or a suitable buffer. Aliquots stored at –20oC for 1-2 months or 1 week at 4oC.

Store powder at –20oC for 6 months.

Suggested Uses

ELISA, Western blot

Cellular Activity

studies on the GTP trimer bound protein dependent signaling pathways.

Induction of aggregation of Swiss 3T3 cells by incubation with PMT. Induction of aggregation of Swiss 3T3 cells by incubation with PMT.

Specificity

Pasteurella multocida toxin (PMT/ToxA, 1285-aa, protein accession # CAA36717.1) is 99% conserved in ToxA [Pasteurella multocida]. The N-temrinal region 1-713 of Pasteurella multocida subsp. gallicida str. Anand1_poultry is also 99% conserved.

General References: Petersen, SK (1989) Mol. Microbiol. 4, 821-830; Buys WECM (1989) Nucl. Acid. Res. 18, 2815-2816; Lax AJ (1989) FEBS Lett. 277, 59-64,

*This product is for in vitro research use only.

Related material available from ADI

Catalog#	ProdDescription
CTOX11-S	Anti-Cholera Toxin protein antiserum
CTOX15-N-500	Purified Cholera Toxin protein (antigen grade)
CTOX16-S	Anti-Cholera Toxin A subunit antiserum
DTOX16-N-500	Purified Diphtheria Toxoid protein (cGMP/USP, vaccine grade, ~1500-2500 Lf/ml; Low endotoxin)
DTOX16-S	Anti-Diphtheria Toxoid/Toxin antiserum
PTOX34-S	Mouse Anti-B. pertussis Toxin IgG positive control for ELISA, IF,
PTOX35-N-10	Pertussis Toxin A promoter (B. pertussis), purified
PTOX36-N-10	Pertussis Toxin B promoter (B. pertussis), purified
TTOX14-M	Monoclonal Anti-C. tetani purified toxin IgG (tetanus shock toxin)
TTOX15-N-1000	Tetanus Toxoid from C. tetani purified ((700-1200 Lf/ml; cGMP vaccine grade, Low Endotoxin)
TTOX15-S	Anti-C. tetani purified toxin IgG (tetanus shock toxin)

PMT15-N-10-P-Multocida-Toxin-PMT 150420A

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