ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

C. perfringens alpha toxin (Phospholipase C)

Cat # CPA15-R-10 Recombinant (E.coli) C. perfringens alpha toxin purified protein **SIZE**: 10 ug

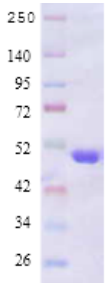
Clostridium perfringens *(C. perfringens, formerly known as C. welchii, or Bacillus welchii)* is a rod-shaped **Gram-positive bacterium** that is found in many environmental sources as well as in the intestines of humans and animals. Anaerobic, spore-forming bacterium *C. perfringens* is distributed ubiquitously throughout the environment and is responsible for food poisoning, gastrointestinal disease, gas gangrene and related necrotic conditions (enteritis or enterotoxemia) in humans and other mammals. A commonly used toxin typing classification system assigns *C. perfringens* isolates to types A to E based upon their ability to produce four typing **toxins (alpha, beta, epsilon and iota-toxins**). **Type A** bacteria produce alpha toxin, **type B** bacteria produce alpha, beta, and epsilon toxins, **type C** bacteria produce alpha and beta toxins, **type D** bacteria produce alpha and epsilon toxins, and **type E** bacteria proteins produce alpha and iota toxins. *C. perfringens* enterotoxin (CPE) is the main virulent factor that initiates many critical GI diseases. C. perfringens types A-E variants are differentiated by their serological properties and specific toxins.

Type A (alpha toxin is with diseases in horse, lamb, goat, sheep, pig, dog, and chicken). Type B (alpha, beta, and epsilon) is associated with Necrotizing enteritis and enterotoxemia in sheep, cattle, and horse). Type C (alpha and beta toxin) causes enteritis in sheep, cattle, and horse. Type D (alpha and epsilon toxins) may produce enterotoxemia in sheep, goat, and cattle. Type E (alpha and iota toxins) causes enteritis in rabbit, lamb, and cattle. C. perfringens toxins: Alpha toxin/CPA ~43 kda (370aa); beta toxin/CPB (35 kda, 336-aa), epsilon toxin/ETX (34 kda, 319aa), Iota toxin/ITX (binary toxin Ib ~100 kda and Ia ~45 kda).

RecName: Full=Phospholipase C; Short=PLC; EC=3.1.4.3;
Alpha-toxin; Hemolysin; Lecithinase; Phosphatidylcholine cholinephosphohydrolase;

Source of Antigen

#CPA15-R-10, C. perfringens alpha protein



C. perfringens alpha (CPA) protein was expressed as fusion protein (His tag) in E.coli and purified (>95% with major band at ~44 kDa). It is supplied in Tris-HCl buffer (50 mM Tris-HCl, 8M urea, 0.5 mM EDTA, 5 mM β-Mercatoethanol, 0.25 M NaCl and 0.25 M imidazole). **This preparation is not biologically active**. It is not suitable for applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Form & Storage

Storage

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

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 –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting-Load 50-200 ng/lane and detect with appropriate antibodies. Recombinant CPA is ~44 kDa protein

ELISA (1:1000-1:10,000 using 50-100 ng control peptide/well).

Specificity & Cross-reactivity

The CPA11-S reacts with C. perfringens protein in ELISA. Recombinant purified C. perfringens alpha, beta, and epsilon are available for control studies.

General References: Okabe A (1989) BBRC 160, 33-39; Titball RW (1989) Infect. Immun. 57 (2), 367-376; Tso JY (1989) Infect. Immun. 57 (2), 468-476; Myers GS (2006) Genome Res. 16 (8), 1031-1040; Nagahama M (1995) J. Bacteriol. 177 (5), 1179-1185; Ginters A (1996) Microbiology 142 (PT 1), 191-198; Titball RW (1999) Anaerobe 5 (2), 51-64;

For research use only (RUO)

Related items

Catalog#	Description
RB-500700-1	Rabbit Anti-C. perfringens toxins (Alpha+beta+Epsilon) Antibody ELISA, 96 tests, Quantitative
RB-500710-1	Mouse Anti-C. perfringens toxins (Alpha+beta+Epsilon) Antibody ELISA, 96 tests, Quantitative
CPA11-C	Recombinant (E.coli) C. perfringens alpha toxin protein control for western blot
CPA11-S	Rabbit Anti-C. perfringens alpha toxin antiserum
CPA15-R-10	Recombinant (E.coli) C. perfringens alpha toxin purified protein
CPB12-C	Recombinant (E.coli) C. perfringens beta toxin protein control for western blot
CPB12-S	Rabbit Anti-C. perfringens beta toxin antiserum
CPB16-R-10	Recombinant (E.coli) C. perfringens beta toxin purified protein
CPD11-A	Rabbit Anti-C. perfringens type D IgG
CPE13-C	Recombinant (E.coli) C. perfringens epsilon toxin protein control for western blot
CPE13-S	Rabbit Anti-C. perfringens epsilon toxin antiserum
CPE17-R-10	Recombinant (E.coli) C perfringens epsilon toxin purified protein

CPA15-R-10-C-Perfringens-Protein 170420A

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