

Anti-CPE (*Clostridium perfringens* Enterotoxin) antibody, rabbit polyclonal

64-052 200 µg

Shipping and Storage: Shipped at 4°C or -20°C. Store at -20°C. Do not freeze.

Immunogen: Highly purified enterotoxin from *Clostridium perfringens*, strain NCTC8239 (BioAcademia 01-509)

Form: Purified IgG, 4 mg/ml in PBS- with 50% glycerol. Filter sterilized. Azide- and carrier free.

Reactivity: *Clostridium perfringens* enterotoxin.(food-poisoning strains)

Applications:

1. Western blot (1/1,000-1/2,000)
2. Dot blot (1/20,000- 1/100,000)
3. Immunoprecipitation (1/200-1/500)
4. ELISA (1/1,000)

Background: *Clostridium perfringens* enterotoxin (CPE) is a protein toxin produced by majority of *C. perfringens* strains (type A, C, D and E strains) responsible for food poisoning and gastrointestinal disease. CPE destroys cell membrane structure of animals by its phospholipase activity after binding to the membrane of Claudin family proteins, which are components of tight junction of epithelial cell membrane. CPE binds to Claudins 3, 4, 6, 7, 8 and 14, but not to Claudins 1, 2, 5 and 10.

For detail, refer to Fujita K *et al* “*Clostridium perfringens* enterotoxin binds to the second extracellular loop of claudin-3, a tight junction integral membrane protein.” *FEBS Lett* **476**: 258-261 (2000) PMID: [10913624](https://pubmed.ncbi.nlm.nih.gov/10913624/)

Data Link: UniProtKB : [P01558](https://www.uniprot.org/uniprot/P01558) (ELTB_CLOPE)

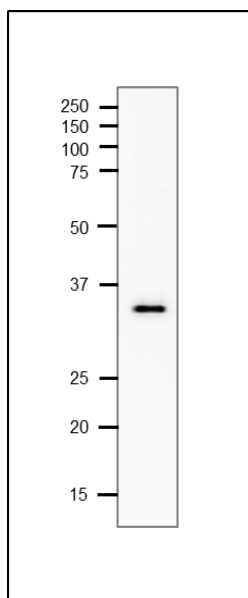


Fig.1 Western Blot of CPE in the culture supernatant of *C. perfringens*.

The proteins in the sample were separated on 12.5% SDS-PAGE. Blotted at 15V, overnight in wet system, on PVDF membrane.

Blocked by shaking with 5% skim milk 1 h and washed with TBST buffer.

Anti-CPE antibody was used at 1µg/ml and incubated at room temperature for 1 h. The membrane was incubated in TBST buffer for 5 min and washing was done 3 times with the same buffer

Second antibody, goat anti-rabbit IgG H & L (HRP) (ab97051) was used at 1/20,000 and incubated for 1 h at room temperature. Washing was done 3 times as before with TBST buffer.

Visualized with BioRad ECL system

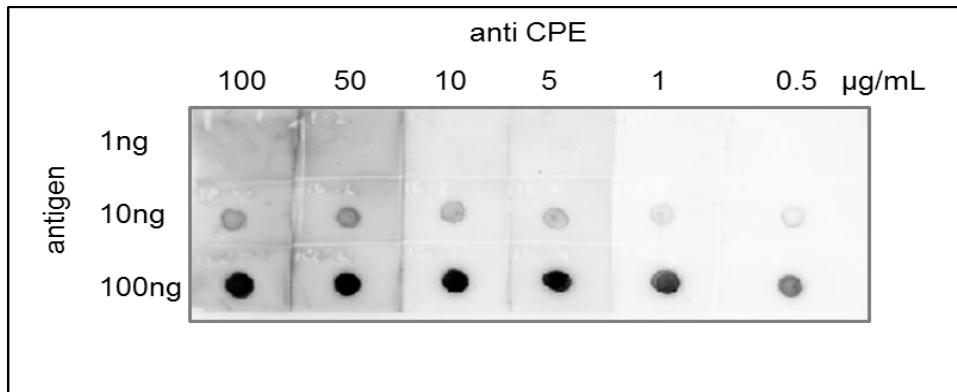


Fig.2 Dot blot of CPE with anti-CPE antibody.

Indicated amounts of purified *C.perfringence* enterotoxin were spotted on nitrocellulose membrane and reacted with the indicated concentrations of anti-CPE antibody for 60 min. As the second antibody, goat anti-rabbit IgG H & L (HRP) (ab97051) was reacted at 1/20,000 dilution for 60 min.

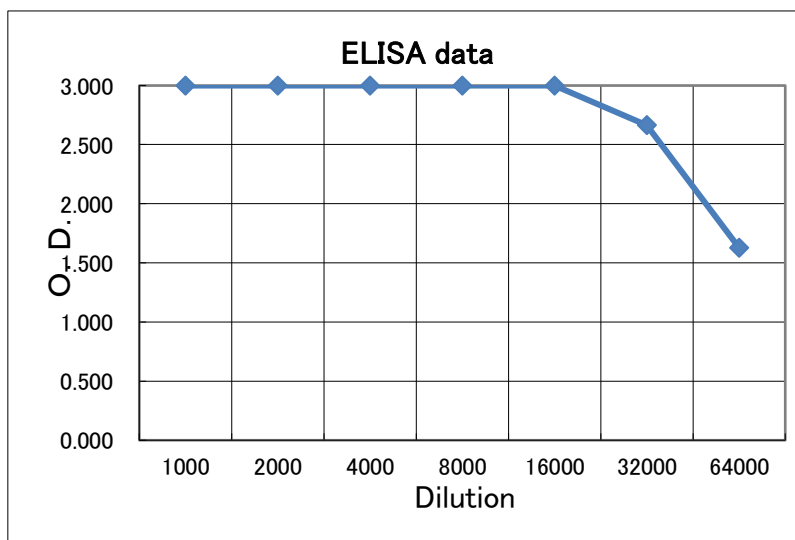


Fig.3. Titration of the anti-CPE antibody activity of the antibody by Indirect ELISA

Plate was coated with 0.2 µg of *C.perfringens* Enterotoxin (BioAcademia 01-509) per well and 100 µl of anti-*C.perfringens* Enterotoxin antibody at the indicated dilution was added to each well and incubated. After washing, goat anti-rabbit-IgG conjugated with HRP was added as a secondary antibody. Color was developed with TMB as substrate. After washing, goat anti-rabbit-IgG conjugated with HRP (ab97051) was added as a secondary antibody. Color was developed with TMB as substrate. Optical density (O.D.) was measured at 490 nm.

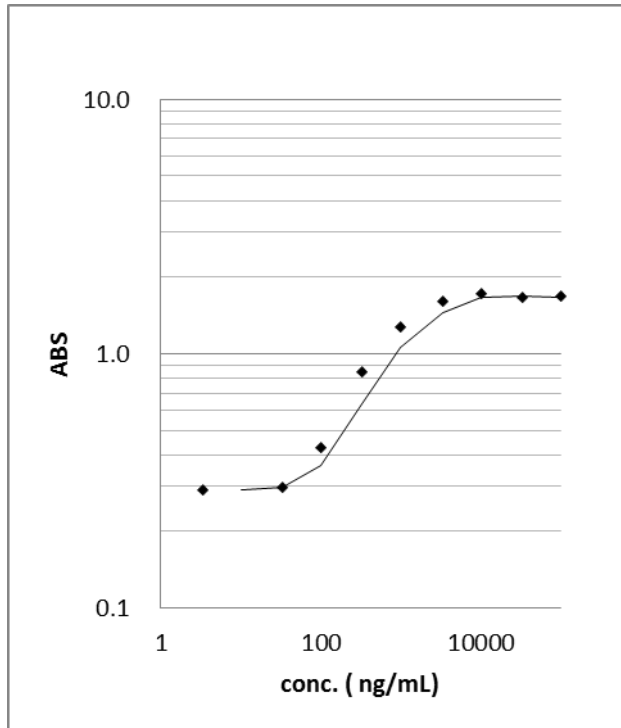


Fig.4. Titration of enterotoxin of *C. perfringens* by indirect ELISA using th anti-CPE antibody.

ELISA plate was coated with 100 μ l of indicated concentration of *C. perfringens* enterotoxin per well. The anti-CPE antibody was used at 1/1,000 dilution. ELISA was performed as in Fig.2.