Anti-*Bacillus cereus* phospholipase C (PC-PLC) antibody, mouse monoclonal (bc-01)

64-060 100 µg

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

Immunogen: Culture supernatant of *B. cereus*

Form: 1 mg/ml in PBS- wtih 50% glycerol, filter sterilized.

Purity: Purified with Ab-Capture for IgM (ProteNova, Japan)

Isotype: mouse IgM

Reactivity: Reacts with phosphatidylcholine phospholipase C (PC-PLC) of *Bacillus cereus*.

Applications:

1. Western blotting (1/500~1/1,000)
2. ELISA (assay dependent)

This antibody is useful for detecting food poisoning *B. cereus*

Background: *Bacillus cereus* is one of the major causative agents of food poisoning and produces various toxins and enzymes. *B. cereus* produces two kinds of phospholipase C (PLC), phosphatidylcholine-PLC (PC-PLC) and phosphatidylinositol-PLC (PI-PLC) . The PC–PLC from *B. cereus*, a monomeric protein containing 245 amino-acid residues (28.5 kDa), This 245-aa Zn^{+2} metalloprotein provides the bacteria with a lecithinase activity but not a hemolytic activity.

Data Link: UniProtKB P09598 (PHLC_BACCE)

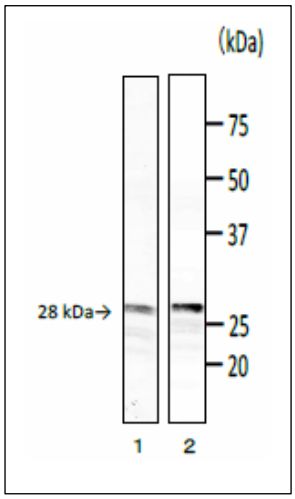

Fig.1. Detection of phospholipase C (PC-PLC) of *B. cereus* by Western blotting with monoclonal antibody (bc-01).

1. Culture medium of *B. cereus*
2. PC-PLC purified from *B. cereus*

The antibody was used at 1/1,000 dilution.

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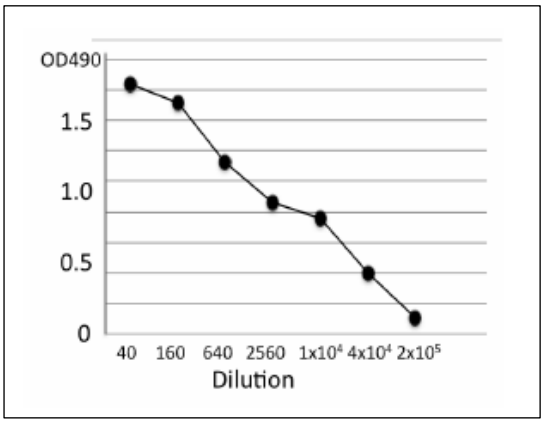

Fig.2. Titration of antibody reactivity of the MAb (bc-01) by indirect ELISA using crude extract of *B. cereus*

The wells of plate were coated with crude extract of *B. cereus* (100 µl, 1 µg/ml). After blocking with 5% skim milk, 100 µl of antibody at the indicated dilutions was added to the each well. HRP-conjugated goat anti-mouse IgM (100 µl, x 2000 dilution) was added.

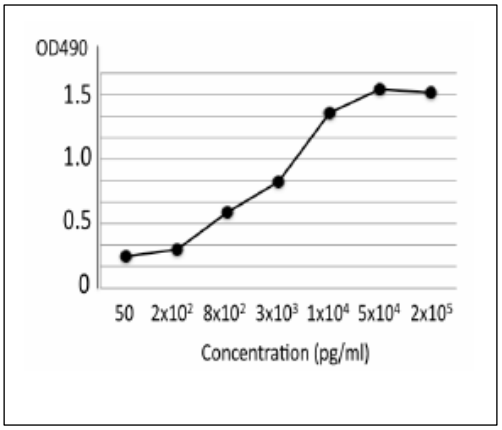

Fig.3. Titration of PLC in the extract of *B. cereus* cells by indirect ELISA using MAb (bc-01).

ELISA plate is coated with indicated amounts of the extract of *B. cereus* cells per well. MAb (bc-01) was used at 1/ 500 dilution. ELISA was performed

Table 1 Reactivities of MAb (bc-01) with various food poisoning bacteria

	ELISA	WB
Bacillus cereus (NBRC15306)	+	28K
Other 5 isolated strains	+	
Bacillus subtitis	—	
Staphylococcus aureus	—	
Salmonella Enteritidis	—	—
Escherichia coli (ETEC)	—	—
E. coli 0157:H7 (EHEC)	—	
Purified PLC (from *B.cereus*)	+	28K

PLC : Phpspholipase C

MAb (bc-01) reacts with a standard strain of *B. cereus* (NBRC15306), 5 isolated strains and both PLC of *B. cereus* and α-toxin of *C. perfringens*. Antibody reacts with *C. perfringens,* but not with any other food poisoning bacteria. Protein bands, 28 kDa and 43kDa sizes correspond to the expected sizes of the *B. cereus*