

Anthrax EF Antibody

Anthrax EF: Anthrax edema factor

CATALOG No.: 3419

BACKGROUND:

Anthrax infection is initiated by the inhalation, ingestion, or cutaneous contact with *Bacillus anthracis* endospores. *B. anthracis* produces three polypeptides that comprise the anthrax toxin: protective antigen (PA), lethal factor (LF), and edema factor (EF) (1,2 for review). PA binds to two related proteins on the cell surface; these are termed tumor epithelial marker 8 (TEM8)/anthrax toxin receptor (ATR) (3) and capillary morphogenesis protein 2 (CMG2) (4), although it is still unclear which is physiologically relevant. Following PA binding to its receptor, PA is cleaved into two fragments by a furin-like protease. The bound fragment binds both LF and EF; the resulting complex is then endocytosed which allows the translocation of LF and EF into the cytoplasm (5). EF is a calmodulin and Ca⁺⁺-dependent adenylate cyclase responsible for the edema seen in the disease. It is thought to benefit the *B. anthracis* bacteria by inhibiting cells of the host immune system (reviewed in 6).

SOURCE:

Rabbit polyclonal Anthrax EF antibody was raised against a synthetic peptide corresponding to 16 amino acids near the carboxy terminus of the Anthrax edema factor protein (Genbank accession no. P40136).

APPLICATION:

Anthrax EF antibody can be used for the detection of Anthrax EF protein in ELISA. Anthrax EF antibody will detect 10 ng of free peptide at 1 µg/ml. (Optimal dilution should be determined by user.)

Other applications are pending.

This product is for research use only.

STORAGE:

Anthrax EF antibody is supplied as immunoaffinity chromatography purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.

RELATED PRODUCTS:

Blocking peptide, Catalog No. **3419P**.
Anthrax PA Antibody (IN), Catalog No. **3411**.
Anthrax PA Antibody (CT), Catalog No. **3413**.
Anthrax LF Antibody (IN), Catalog No. **3415**.
Anthrax LF Antibody (CT), Catalog No. **3417**.
ATR Antibody (IN), Catalog No. **3117**.
ATR antibody (CT), Catalog No. **3119**.

REFERENCES:

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2. Moayeri M and Leppla SH. The roles of anthrax toxin in pathogenesis. *Curr. Opin. Microbiol.* 2004; 7:19-24.
3. Bradley KA, Mogridge J, Mourez M, et al. Identification of the cellular receptor for anthrax toxin. *Nature* 2001; 414:225-9.
4. Scobie HM, Rainey GJ, Bradley KA, et al. Human capillary morphogenesis protein 2 functions as an anthrax toxin receptor. *Proc. Natl. Acad. Sci. USA* 2003; 100:5170-4.
5. Singh Y, Klimpel KR, Goel S, et al. Oligomerization of anthrax toxin protective antigen and binding of lethal factor during endocytotic uptake into mammalian cells. *Infect. Immun.* 1999; 67:1853-9.
6. Collier RJ and Young JA. Anthrax toxin. *Annu. Rev. Cell Dev. Biol.* 2003; 19:45-70.

