SANTA CRUZ BIOTECHNOLOGY, INC.

PA (bE-16): sc-17423

BACKGROUND

Bacillus anthracis, a gram positive bacterium, is capsulogenic and toxinogenic and is the causative agent of anthrax. *Bacillus anthracis* secretes two toxins, which are composed of three proteins: the protective antigen (PA), the lethal factor (LF) and the edema factor (EF). PA and LF comprise a lethal toxin, which provokes a subite death in animals, whereas the edema toxin, comprised of PA and EF, induces edema. The edema and the lethal factors are internalized into the target cells via the protective antigen. PA is the target-cell binding protein and is common to the two effector molecules, LF and EF, which exert their toxic effects once they are translocated to the cytosol by PA. PA is the major component of vaccines against anthrax since it confers protective immunity. The large-scale production of recombinant protein-based anthrax vaccines requires overexpression of the PA protein. LF plays an important role in the pathogenesis of anthrax. In addition, EF and LF exert adenylate cyclase and metalloprotease activity, respectively.

REFERENCES

1. Brossier, F., Guidi-Rontani, C., and Mock, M. 1998. Anthrax toxins. C. R. Seances Soc. Biol. Fil. 3: 437-444.
2. Brossier, F., Weber-Levy, M., Mock, M., and Sirard, J.C. 2000. Protective antigen-mediated antibody response against a heterologous protein produced *in vivo* by *Bacillus anthracis*. Infect. Immun. 10: 5731-5734.
3. Chauhan, V., Singh, A., Waheed, S.M., Singh, S., and Bhatnagar, R. 2001. Constitutive expression of protective antigen gene of *Bacillus anthracis* in *Escherichia coli*. Biochem. Biophys. Res. Commun. 2: 308-315.
4. Watters, J.W. and Dietrich, W.F. 2001. Genetic, physical, and transcript map of the Itxs1 region of mouse chromosome 11. Genomics 2: 223-231.
5. Zhang, Y., Kida, Y., Kuwano, K., Misumi, Y., Ikehara, Y., and Arai, S. 2001. Role of furin in delivery of a CTL epitope of an anthrax toxin-fusion protein. Microbiol. Immunol. 2: 119-125.

SOURCE

PA (bE-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PA of *Bacillus anthracis* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17423 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

PA (bE-16) is recommended for detection of PA of *B. anthracis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

RESEARCH USE

For research use only, not for use in diagnostic procedures.