

**Anthrax Protective Antigen Antibody**  
**Catalog # ASC10276****Specification**

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**Anthrax Protective Antigen Antibody - Product Information**

Application	E
Primary Accession	<a href="#">P13423</a>
Other Accession	<a href="#">AAF86457</a> , <a href="#">9280533</a>
Reactivity	Bacteria
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	Anthrax protective antigen antibody can be used for the detection of Anthrax protective antigen protein in ELISA. It will detect 10 ng of free peptide at 1 µg/mL.

**Anthrax Protective Antigen Antibody - Additional Information**Gene ID **3361714****Other Names**

Anthrax Protective Antigen Antibody: pag, pXO1-110, BXA0164, GBAA\_pXO1\_0164, Protective antigen, Anthrax toxins translocating protein, PA, Protective antigen

**Target/Specificity**

pxo1\_110;

**Reconstitution & Storage**

Anthrax Protective Antigen antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

Anthrax Protective Antigen Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Anthrax Protective Antigen Antibody - Protein Information****Name** pagA**Synonyms** pag**Function**

Protective antigen constitutes one of the three proteins composing the anthrax toxin; it mediates attachment to host cells and translocation of edema factor (EF) and lethal factor (LF) into the host cytoplasm (PubMed: [11700562](http://www.uniprot.org/citations/11700562), PubMed: [14507921](http://www.uniprot.org/citations/14507921), PubMed: [15243628](http://www.uniprot.org/citations/15243628))

target="\_blank">15243628</a>, PubMed:<a href="http://www.uniprot.org/citations/15326297" target="\_blank">15326297</a>). PA associated with LF forms the lethal toxin (LeTx) and causes death when injected; PA associated with EF forms the edema toxin (EdTx) and produces edema (PubMed:<a href="http://www.uniprot.org/citations/1651334" target="\_blank">1651334</a>). PA induces immunity to infection with anthrax (PubMed:<a href="http://www.uniprot.org/citations/11544370" target="\_blank">11544370</a>).

### **Cellular Location**

[Protective antigen]: Secreted. Host cell membrane Note=Secreted through the Sec-dependent secretion pathway (PubMed:12606539). Therefore, PA is translocated across the membrane in an unfolded state and then it is folded into its native configuration on the trans side of the membrane, prior to its release to the environment (PubMed:12606539). PA requires the extracellular chaperone PrsA for efficient folding (PubMed:12606539). It circulates in the host blood and binds host cell receptors at the cell surface (PubMed:11700562, PubMed:14507921).

## **Anthrax Protective Antigen Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## **Anthrax Protective Antigen Antibody - Images**

## **Anthrax Protective Antigen Antibody - Background**

Anthrax Protective Antigen Antibody: 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). PA binds to two related proteins on the cell surface; these are termed tumor epithelial marker 8 (TEM8)/anthrax toxin receptor (ATR) and capillary morphogenesis protein 2 (CMG2), 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. These toxins are usually sufficient to cause rapid cell death, and often the death of the organism.

## **Anthrax Protective Antigen Antibody - References**

Schwartz MN. Recognition and management of anthrax - an update. *New Engl. J. Med.* 2001; 345:1621-6.  
Moayeri M and Leppla SH. The roles of anthrax toxin in pathogenesis. *Curr. Opin. Microbiol.* 2004; 7:19-24.  
Bradley KA, Mogridge J, Mourez M, et al. Identification of the cellular receptor for anthrax toxin. *Nature* 2001; 414:225-9.  
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.