



# list labs

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Product #174  
Lot #17410A1  
Last Retest Date: Mar 2018  
Recommended Retest Date: Mar 2021

CERTIFICATE OF ANALYSIS  
ANTHRAX PROTECTIVE ANTIGEN, ACTIVATED (PA 63)  
from *Bacillus anthracis*  
Lot #17410A1

**PH  
CHANGE**

## Contents

Activated protective antigen (PA 63) has been prepared by trypsinization of protective antigen followed by removal of the 20 kDa cleavage product. PA 63 forms an oligomer and binds to both lethal factor (LF) and edema factor (EF).

Each vial contains 0.5 mg of activated protective antigen from *Bacillus anthracis*. When reconstituted with 0.5 ml water, the buffer is 10 mM bis-Tris propane, 0.1 M NaCl, pH 9.0 with 1.25% trehalose. Read the following recommendations prior to reconstituting this material. **Handle the product gently; do not vortex.**

## Recommended Reconstitution of Anthrax Proteins

Anthrax toxin proteins, when reconstituted in water, may be stored at 2-8°C and used successfully within a few hours.

## Packaging/Storage

This product is packaged aseptically, lyophilized, and sealed under vacuum. Store at 2-8°C prior to reconstitution.

## Concentration

Protein concentration was determined by a modification of Bradford<sup>1</sup>, using bovine serum albumin as the standard.

## Purity

When examined on 4-12% polyacrylamide gels in the presence of SDS, this protein migrates as a single major band with an apparent molecular weight of 63,000 daltons. Densitometric analysis estimates the purity of the product as >95%.

The endotoxin content, determined using a kinetic chromagenic LAL assay, is 1.16 EU/mg.

(continued)

**Tissue Culture Application**

For tissue culture applications, medium containing glutamine must be fresh. Ammonium ions are released when glutamine breaks down, and may prevent acidification of the endosome thereby inhibiting translocation of LF or EF into the cytosol.<sup>2</sup> A stable form of glutamine must be used.<sup>3,4</sup>

**Handling**

Good laboratory technique should be employed in the safe handling of this product. Wear appropriate laboratory attire including a lab coat, gloves, and safety glasses. Nitrile gloves are recommended for use when handling lyophilized material.

This product is intended for research purposes only. It is not intended for use in humans or as a diagnostic agent. List Biological Laboratories, Inc. is not liable for any damages resulting from the misuse or handling of this product.

**FOR RESEARCH PURPOSES ONLY. NOT FOR HUMAN USE.**

**References**

1. Bradford, M.M. (1976) *Anal. Biochem*, **72**, 248-254.
2. Stephen Little, personal communication
3. GlutaMax™ by Invitrogen/Gibco, [www.invitrogen.com](http://www.invitrogen.com)
4. Ala-Gln by Sigma, [www.sigmaaldrich.com](http://www.sigmaaldrich.com)

Production: KD Date: 5-17-18 Management: NS Date: 5-17-18 QA/QC: JC Date: 5/17/18