

**CERTIFICATE OF ANALYSIS  
PERTUSSIS TOXIN MUTANT  
Lot #1842A1**

**Contents**

Each vial, when reconstituted with 100  $\mu$ l water, contains 50  $\mu$ g of protein in 0.01 M sodium phosphate buffer, pH 7.0, with 0.05 M sodium chloride. Mix gently prior to use to ensure a uniform suspension. Do not sterile filter, as this will result in loss of material. **Handle the product gently. Do not vortex.**

**Concentration**

Protein concentration was determined by a modification of the method of Bradford<sup>1</sup> using an NIST traceable bovine serum albumin.

**Purity**

This preparation migrates as five distinct bands, as described by Tamura et al.<sup>2</sup>, when run on 12% SDS-polyacrylamide gels.

The endotoxin content, determined using a kinetic chromogenic LAL assay, is approximately 20 EU/mg.

**Assays**

**CHO Cell Assay:** When examined in a CHO cell assay as described by Hewlett et al.<sup>3</sup>, the lowest concentration of toxin at which a positive response (clustered growth pattern) was obtained was 3.3 ng/ml.

**Adenylate Cyclase Assay:** The adenylate cyclase activity of this lot, in the presence of 1  $\mu$ molar calmodulin, is 1 picomole cAMP/min/ $\mu$ g Pertussis Toxin Mutant when assayed by the method of Wolff et al.<sup>4</sup>

**Packaging/Storage**

This product is provided as an aseptically packaged lyophilized powder, sealed under vacuum. Store at 2–8°C prior to and following reconstitution. **DO NOT FREEZE.**

**Handling**

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

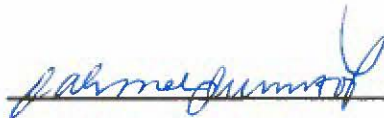
The product is intended for research purposes by qualified personnel. It is not intended for use in humans or as a diagnostic agent. List Biological Laboratories, Inc. is not liable for any damages resulting from the misuse or handling of this product.

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

**References**

1. Bradford, M.M. (1976) Anal. Biochem. **72**, 248 – 254.
2. Tamura, M., Nogomori, K., Murai, S. Yajima, M. Ito, K., Katada, T. Ui, M. and Ishi, S. (1982) Biochem. **21**, 5516 – 5522.
3. Hewlett, E.L., Sauer, K.T., Myers, G.A., Cowell, J.L. and Guerrant, R.L. (1983) Infect. Immun. **40**, 1198 – 1203.
4. Wolff, J., Cook, G.H., Goldhammer, A.R. and Berkowitz, S.A. (1980) PNAS **77**, 3841 – 3844.

Quality Assurance:



Date:

10SEP2021