

CERTIFICATE OF ANALYSIS  
PERTUSSIS TOXIN (SALT-FREE)  
Lot #181236A1

**Contents**

Each vial contains 50 µg of Pertussis Toxin. Reconstitute with water or buffer of choice. 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**

A modification of the method of Bradford,<sup>1</sup> using NIST traceable bovine serum albumin as the standard, is used to determine the protein concentration.

**Purity**

When examined on 16% Tricine gels in the presence of a reducing agent, this preparation migrates as five distinct bands. Densitometric analysis estimates the purity as >95%.

This product has been tested for endotoxin levels and was found to be acceptable.

In immunoblot assays, this product does not react with antibodies to FHA, Pertactin, Fimbriae 2 or Fimbriae 3.

**Assays**

CHO Cell Assay: When examined in a CHO cell assay as described by Hewlett et al.,<sup>2</sup> the lowest concentration of toxin at which a positive response (clustered growth pattern) was obtained was 0.03 ng/ml.

**NOTE: Toxicity may vary by lot of toxin. Each laboratory should determine the optimum dosage for each lot in a particular application.**

Adenylate Cyclase Assay: The Adenylate Cyclase activity of this lot, in the presence of 1 µmolar calmodulin, is 5 picomole cAMP/min/µg toxin, when assayed by the method of Wolff et al.<sup>3</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.**

**Activation**

Please note that this product is not activated. If your system requires activation, see Kaslow et al.<sup>4</sup> for suggested conditions.

(continued)

**Handling**

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

This 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. Hewlett, E.L., Sauer, K.T., Myers, G.A., Cowell, J.L. and Guerrant, R.L. (1983) *Infect. Immun.* **40**, 1198 – 1203.
3. Wolff, J., Cook, G.H., Goldhammer, A.R. and Berkowitz, S.A. (1980) *PNAS* **77**, 3841 – 3844.
4. Kaslow, H.R., Lim, L.K., Moss, J. and Lesikar, D.D. (1987) *Biochem.* **26**, 123 – 127.

Production: WPC Date: 4/12/18 Management: NS Date: 4/12/2018 QA/QC: SLP Date: 4/12/18  
Ver. 3