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Product #149A  
Lot #14937A1  
Release Date: April 2018  
Recommended Retest Date: April 2021

CERTIFICATE OF ANALYSIS  
DIPHThERIA TOXIN CRM<sub>197</sub> MUTANT  
Lot #14937A1

New  
Quantitation

**Contents**

Each vial contains 0.25 mg of Diphtheria Toxin CRM<sub>197</sub> Mutant. When reconstituted with 0.25 mL water, the buffer is 0.01 M sodium phosphate with 5% lactose, pH 7.4. **Handle the product gently; do not vortex.**

**Concentration**

Protein concentration was determined by absorbance at 280 nm using an extinction coefficient of 0.93 for a 1 mg/ml solution. This value is calculated by ProtParam<sup>1</sup> using an algorithm based on the Edelhoch<sup>2</sup> method with modifications described in Pace et al.<sup>3</sup>

**Purity**

When examined on SDS-PAGE, this preparation migrates as a single major band with an apparent molecular weight of 58,000 daltons which corresponds to the intact toxin. Densitometric analysis estimates the purity of the product as ≥ 90%.

The endotoxin content, determined using a kinetic chromogenic LAL assay, is < 1 EU/mg.

**Packaging/Storage**

This preparation is provided as an aseptically lyophilized powder that has been stoppered under vacuum. Prior to reconstitution, it should be stored at 2 – 8°C.

**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 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. [www.expasy.ch/tools/protparam-doc.html](http://www.expasy.ch/tools/protparam-doc.html)
2. Edelhoch, H. (1967) *Biochemistry*, 6, 1948-1954.
3. Pace, C.N., Vajdos, F., Fee, L., Grimsley, G. and Gray, T. (1995) *Protein Sci.* 4, 2411-2423

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Made in U.S.A.