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**CERTIFICATE OF ANALYSIS  
BOTULINUM NEUROTOXIN TYPE A TOXOID  
Lot #1333A1**

**Contents**

Each vial contains 0.01 mg of Botulinum Neurotoxin Type A (BoNT/A) Toxoid in 0.01M Sodium Phosphate, pH 7.5 at a concentration of 0.1 mg/mL. **Handle the product gently; do not vortex.**

**Preparation**

This product was produced from purified Botulinum Neurotoxin Type A (Product #130) by inactivation with formaldehyde. The formalin-detoxified botulinum neurotoxin was prepared using optimized formaldehyde toxoiding conditions as described by James Keller in "Characterization of New Formalin-Detoxified Botulinum Neurotoxin Toxoid", Clinical and Vaccine Immunology, Vol. 15, 1374-1379 (2008), in order to obtain a toxoid that closely resembles the native toxin (improved antigenicity) but which is not toxic.

**Concentration**

Protein concentration was determined by absorbance at 280 nm using an extinction coefficient of 1.63 for a 1 mg/ml solution.<sup>1</sup>

**Identity**

In Western Blot assays, this product reacts with chicken anti-BoNT/A (Product #730) and mouse anti-BoNT/A (Product #731).

**Toxicity**

The toxicity of the product was tested using subcutaneous mouse lethality. At the dose tested (4 µg/mouse) there were no deaths and no signs of illness during seven days of observation.

**Antigenicity**

A sandwich ELISA was performed using chicken anti-BoNT/A (Product #730) at 1 µg/well as the capture antibody and mouse anti-BoNT/A (Product #731) as the secondary antibody. The data indicate that the BoNT/A toxoid (Product #133L) was approximately five times less antigenic (midpoint of 140 ng/ml) than the BoNT/A (midpoint of 30 ng/ml). These results are significantly improved over other commercially available toxoids prepared by formaldehyde inactivation.

(Continued)

Product #133L, Lot #1333A1

**Packaging/Storage**

This product is supplied as an aseptically packaged liquid. Store at 2 – 8°C. To ensure recovery of vial contents, centrifuge before opening. Aseptic handling is recommended, no preservatives have been added to the product.

**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.

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. Sathyamoorthy, V. and DasGupta, B.R. (1985) *J. Biol. Chem.* **260**, 10461-10466.

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Production: KA Date: 11-13-15 Management: NS Date: 11-13-15 QA/QC: KIP Date: 11/13/15