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CERTIFICATE OF ANALYSIS  
BOTULINUM NEUROTOXIN TYPE A  
Lot #13027A4A

Contents:

Each 100 µg vial of botulinum toxin type A, when reconstituted with 1.0 ml of appropriate buffer, contains 1.25% lactose. **To insure full recovery of toxin from the vial, include 1.0 mg/ml BSA in the reconstitution buffer.** Use sufficient volume to wash down the walls and stopper, if necessary. Handle the product gently; do not vortex. Read all handling information prior to reconstitution. When the toxin is used for *in vitro* studies, it is preincubated in a buffer containing 5mM dithiothreitol for 30 minutes in order to reduce and thereby activate the toxin. For use with SNAPtide™, Product # 520 and 521, see the corresponding Certificate of Analysis for the appropriate buffer.

Concentration:

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

Gel Electrophoresis:

When examined on 7.5% SDS-polyacrylamide gels run according to the method of Wyckoff<sup>2</sup>, a modification of the Laemmli<sup>3</sup> gel system, this protein migrates as a single major band with an apparent molecular weight of approximately 150,000 daltons. In the presence of a reducing agent, the preparation migrates as two bands with apparent molecular weights of 100,000 and 50,000 daltons.

Storage:

This product is supplied as a lyophilized powder which has been stoppered under vacuum. Store at 4°C.

Toxicity:

Botulinum toxin is the most deadly bacterial toxin known to man. The lethal dose in unvaccinated humans is estimated at 1 ng/kg.<sup>4</sup> Consult the MSDS for further information.

(continued)

**Handling:**

Good laboratory technique should be employed in the safe handling of this product. This involves observing the following practices:

1. Persons handling this product and contaminated glassware should be vaccinated with pentavalent botulinum toxoid available from the Centers for Disease Control (Atlanta, Georgia, USA).
2. This product is to be used by skilled personnel under the direction of a principal investigator in a biosafety level 3 containment area only.
3. Wear appropriate attire, i.e., labcoat, eye protection and latex gloves.
4. **Never** remove the stopper prior to reconstitution and **never** work with the product in the powdered form. Always reconstitute it first.
5. Do not mouth pipette, inhale, ingest or allow to come into contact with open wounds. Wash thoroughly any area of the body which comes into contact with the product.
6. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device.
7. 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 USE IN HUMANS.**

**References:**

1. Sathyamoorthy, V. and DasGupta, B.R. (1985) *J. Biol. Chem.* **260**, 10461-10466.
2. Wyckoff, M., Rodbard, D. And Chrambach, A. (1977) *Anal. Biochem.* **78**, 459-482.
3. Laemmli, U.K. (1970) *Nature* **227**, 680-685.
4. Gill, D.M. (1982) *Microbiol. Rev.* **46**, 86-94.

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