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Product #190A

CERTIFICATE OF ANALYSIS
TETANUS TOXIN
Lot #19042C1

Contents:

Each vial, when reconstituted with 250 µl of sterile distilled water, contains 25 µg of tetanus toxin in 0.01 M sodium phosphate, pH 7.5.

Concentration:

Protein concentration is determined by a modification of the method of Bradford[1] using ovalbumin as the standard.

Purity:

This preparation migrates as a single band of molecular weight approximately 150,000 daltons when run on 4-20% polyacrylamide SDS gels prepared according to the method of Wyckoff[2], a modification of the Laemmli[3] gel system. In the presence of ß-mercaptoethanol, 2 bands are seen, the heavy chain at 100,000 daltons and the light chain at 50,000 daltons.

Activity:

Each lot of tetanus toxin is tested to confirm binding activity to G_{T1b} ganglioside using a hemagglutination assay.[4]

Storage:

Store material at 4°C prior to and following reconstitution.

Toxicity:

Tetanus toxin is one of the most deadly toxins known to man. Even small amounts of tetanus toxin can pose a serious threat to an unvaccinated user. See handling precautions on reverse side.

(continued)

Handling:

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

1. **INTACT TETANUS TOXIN IS ONE OF THE MOST POTENT TOXINS KNOWN. THE LETHAL DOSE IN UNVACCINATED HUMANS IS ESTIMATED AT <2.5 ng/kg.[5] PERSONS HANDLING THIS PRODUCT AND CONTAMINATED GLASSWARE SHOULD HAVE A CURRENT TETANUS VACCINATION, AND THEIR SERUM ANTITOXIN LEVEL SHOULD BE GREATER THAN 1.0 INTERNATIONAL UNIT PER MILLILITER.**

2. **This product is to be used by skilled personnel under the direction of a principal investigator in a laboratory setting only.**

3. **Wear appropriate laboratory attire including a lab coat, gloves and safety glasses.**

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 HUMAN USE.

References:

1. Bradford, M.M. (1976) *Anal. Biochem.* **72**, 248-254.

2. Wyckoff, M., Rodbard, D. and Chrambach, A. (1977) *Anal. Biochem.* **78**, 459-482.

3. Laemmli, U.K. (1970) *Nature* **227**, 680-685.

4. Tayot, J.-L., Holmgren, J., Svennerholm L., Lindblad, M. and Tardy, M. (1981) *Eur. J. Biochem.* **113**, 249-258.

5. Gill, D.M. (1982) *Microbiol. Rev.* **46**, 86-94.

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