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CERTIFICATE OF ANALYSIS
LIPOPOLYSACCHARIDE, ULTRA PURE
from *Escherichia coli* O111:B4
Lot #4217A1

Contents

Each vial contains 1 mg of highly purified lipopolysaccharide (LPS) from *Escherichia coli* type O111:B4, lyophilized in water.

Packaging/Reconstitution/Storage

LPS is dispersible in aqueous solvents at concentrations of 1 mg/ml. To achieve a suspension in water, heating to about 50°C with intermittent vortexing or sonication is recommended.¹ Allow ample time for dispersion to occur. The use of 0.5% triethylamine aids in dispersion. Triethylamine is very basic and may be neutralized with Tris HCl to avoid hydrolysis of the LPS fatty acid chains. It is recommended that this material be stored at 2-8°C prior to and following reconstitution.

Analysis

Endotoxin by kinetic chromogenic LAL assay.....	2.6 EU/ng
2-Keto-3-deoxyoctonate (KDO) ²	2.5%
Nucleic acid ³	1.4%
Protein by Colloidal Gold Transfer blot ^{4,5}	None Detected

Handling

Good laboratory technique should be employed in the safe handling of any lipopolysaccharide or lipid A product. Wear appropriate laboratory attire including a lab coat, gloves and safety glasses. Nitrile gloves are recommended when handling lyophilized material.

This product is pyrogenic. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device.

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 damages resulting from the misuse or handling of this product.

FOR RESEARCH PURPOSES ONLY. NOT FOR USE IN HUMANS.

(continued)

References

1. Mukerjee, P., Kastowsky, M., Obst, S., and Takayama, K. (1999) Lipopolysaccharide Preparations in Aqueous Media in *Endotoxin in Health and Disease*, Brade, H., Opal, S.M., Vogel, S.N., and Morrison, D. eds., Marcel Dekker, Inc., New York, p. 223-224.
2. Cynkin, M.A. and Ashwell, G. (1960) *Nature* **186**, 155-156.
3. Determined by absorption at 260 nm.
4. Rohringer, R., and Holden, D.W. (1985) *Anal. Biochem.* **144**, 118-127.
5. Danscher, G. (1981) *Histochemistry* **71**, 81-88.

Production: EM Date: 3/12/13 Management: NS Date: 3/12/13 QA/QC: CR Date: 3/12/13