

**CERTIFICATE OF ANALYSIS**  
**LIPOPOLYSACCHARIDE**  
from *Escherichia coli* O111:B4  
Lot #20146A2

**Contents**

Each vial contains 5 mg of lipopolysaccharide (LPS) lyophilized in water. This LPS is isolated from *Escherichia coli* O111:B4.

**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.<sup>1</sup> 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**

2-Keto-3-deoxyoctonate (KDO) <sup>2</sup> .....	1.6%
Phosphate <sup>3</sup> .....	2.4%
Protein <sup>4</sup> .....	0.4%
Nucleic acid <sup>5</sup> .....	0.3%
Endotoxin activity by a kinetic chromogenic LAL assay .....	5 EU/ng

**Handling**

Good laboratory technique should be employed in the safe handling of any lipopolysaccharide or lipid A product. Wear appropriate laboratory attire including 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.

The 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. Mukerjee, P., Kastowsky, M., Obst, S., Takayama, K. (1999) Lipopolysaccharide Preparations in Aqueous Media in Endotoxin in Health and Disease, Brade, H., Opal, S.M., Vogel, S.N., Morrison, D.C. eds., Marcel Dekker, Inc., New York, p. 223-224.
2. Cynkin, M.A. and Ashwell, G. (1960) *Nature* 186, 155-156.
3. Ames, B.N. and Dubin, D.T. (1960) *J. Biol. Chem.* 235, 769-775.
4. Bradford, M.M. (1976) *Anal. Biochem.* 72, 248-254.
5. Determined by absorption at 260 nm.

Production: KS Date: 10-21-16 Management: NS Date: 10-21-16 QA/QC: GP Date: 10/21/16