

CELUX® LPS, from Escherichia coli O55:B5

Cat. no. MCCE008

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1. Product Information

Product name	CELUX® LPS, from Escherichia coli O55:B5
Cat. No.	MCCE008
Size	5 mg
Storage and shipping	Store at 2 ~ 8°C for 6 year after receipt.

2. Product description

Lipopolysaccharide (LPS) is one of the major components of the cell wall of Gram-negative bacteria and constitutes a protective barrier against the penetration of antibiotics and bile salts, conferring a natural resistance to these bacteria and affecting their ability to cause disease. Lipopolysaccharide (LPS) is also an important component of the outer membrane of the bacterium and plays an important role in the growth and reproduction of the bacterium, as well as in its structural integrity. LPS is composed of lipid A, glucosylphosphatidylinositol, short nucleo-oligosaccharides, and O-antigens (distal polysaccharides), which determine the serotype of the LPS.

LPS plays an important role in biomedical research as an endotoxin and an inflammatory inducer, especially in modeling and studying inflammatory response mechanisms. For example, LPS derived from E. coli O55:B5 can be used in the following research areas: stimulation of the spleen, study of the expression of the Malitaf gene in the fish Bluntnose Snapper, stimulation of hepatocytes and non-parenchymatous cells in order to characterize their responses, evaluation of the effects of natural compounds on liver disease in hepatitis models, induction of oligodendrocyte toxicity to assess potential neuroprotective effects of different compounds, induction of muscular dystrophy in rats, induction of neurotoxicity in the brain, induction of oligodendrocyte toxicity to assess the potential neuroprotective effects of different compounds, induction of muscle atrophy in rats to study the antioxidant properties of modified hydroxyapatite nanoparticles and their potential application in drug carriers.

3. Instructions for use

[Please refer to the relevant literature for the specific concentration to be used, and optimize it according to your own experimental conditions (e.g., experimental purpose, etc.)].

The product has good solubility in water or cell culture medium, and can form a light-yellow turbid solution.

3.1. In water, its solubility can reach 5 mg/mL, and the solution formed is slightly turbid.

3.2. In cell culture media, a concentration of 1 mg/mL is recommended to obtain a more homogeneous solution.

3.3. For higher concentrations (e.g., 20 mg/mL), vortex mixing and heating to 70 - 80°C can be used to achieve a more concentrated solution that is still turbid.

[Note:] Lipopolysaccharide molecules tend to form micelles in both water and phosphate buffers, resulting in a cloudy appearance. Even with organic solvents such as methanol, it is not possible to obtain a completely clear solution; the turbid character of the product, despite the differences in solubility in different solvents, is due to the physico-chemical nature of the lipopolysaccharide forming micelles.

4. Note

- 4.1. For your safety and health, please wear lab coat and disposable gloves to operate.
- 4.2. This product is for scientific research purposes only.
- 4.3. When used, dissolution can be optimized by changing the solvent appropriately or by heating.