

Technical Bulletin

Anti-*Escherichia coli* O111:B4 LPS antibody, Mouse monoclonal

Clone Ecco14, purified from hybridoma cell culture

SAB4200878

Product Description

Monoclonal Anti-*Escherichia coli* O111:B4 LPS antibody (mouse IgM isotype) is derived from the Ecco14 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with *E. coli* O111:B4 LPS (Cat. No. L2630) as immunogen. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO-2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-*Escherichia coli* O111:B4 LPS antibody specifically recognizes LPS of O111:B4 *E. coli* subtype and has no cross reactivity with *Escherichia coli* O26:B6 LPS, *Escherichia coli* eh100 LPS, *P. gingivalis*, *P. mirabilis*, *S. typhimurium*, *S. enteritidis*. The antibody may be used in various immunochemical techniques including immunoblotting and ELISA.

Lipopolysaccharides (LPSs) are characteristic components of the cell wall of Gram-negative bacteria. A typical LPS molecule has lipid A (a glucosamine-based phospholipid), a relatively short core oligosaccharide and a distal polysaccharide (O-antigen). LPSs contribute to the integrity of the outer membrane and protect the cell against the action of bile salts and lipophilic antibiotics. They stimulate host cells via TLR2 and TLR4 (toll like receptors). This stimulation results in the generation of various proinflammatory cytokines, such as TNF α (tumor necrosis factor), IL-1 (interleukin 1) and IL-6.^{1,2} Host cells stimulation later leads to hepatic secretion of acute phase proteins (APP) such as serum amyloid A (SAA) and haptoglobin (Hp).^{3,4} Acute phase proteins are known biomarkers for the diagnosis of several inflammatory conditions.^{5,6}

Monoclonal Anti-*Escherichia coli* O111:B4 LPS antibody can be used for detection of O111:B4 LPS in liquid samples for inflammatory research, microbiome research and for O111:B4 LPS presence in fermentation products.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

Unless otherwise stated in our catalog our products are intended for research use only and are not to be used for any other purpose, which includes but is not limited to, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses or any type of consumption or application to humans or animals.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting:

A working concentration of 0.25-0.5 μ g/mL is recommended using *E. coli* LPS (Cat. No. L2630).

ELISA:

A working concentration of 0.5-1.0 μ g/mL is recommended using *E. coli* LPS (Cat. No. L2630).

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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4. Kusebauch U., et al., *Journal of dairy science* **101.7**, 6532-6541 (2018).
5. Petersen, HH., et al., *Veterinary research* **35.2**, 163-187 (2004).
6. Eckersall PD., et al., *The veterinary journal* **185.1**, 23-27, (2010).

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SAB4200878 Rev 11/21

