

## **Elucidation of Lipid A Structure from *E.coli* O157: H7: K- by MALDI - TOF MS and ESI-MS using Multiple Stage Analysis**

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### **Abstract**

Lipid A is the hydrophobic anchor of lipopolysaccharide(LPS), a major component of the outer membrane of Gram-negative bacteria. The active component of LPS endotoxin, lipid A, can cause septic shock by severe infection. Recently, many researches have focused on to find a protein or peptide that binds LPS and neutralizes its biological effects. Because lipid A is a unique structure of Gram-negative bacteria, the apprehension of lipid A structure plays an important role in interaction mechanism between LPS and neutralizing molecules. This study demonstrate structural investigation of lipid A from *E.coli* O157: H7: K- using Matrix Asisted Laser Desorption Ionization (MALDI) - Time Of Flight (TOF) mass spectrometry and electrospray ionization (ESI) mass spectrometry. This structural investigation method also can be helpful for understanding interaction mechanism between LPS and neutralizing molecules

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