

Special Issue

Advances in Lipopolysaccharide (LPS)

Message from the Guest Editor

Lipopolysaccharide (LPS) has previously been known as endotoxin, which was discovered about 100 years ago. It is a glycolipid that represents the major outer membrane component of Gram-negative bacteria. LPS is rarely released in the normal living state of bacteria, but is released after bacterial cell death and rupture, artificial lysis or active cell growth and reproduction. It is not toxic in itself. Recently, the physiological role of LPS through mucosa (e.g., the site of symbiotic bacteria) has been reviewed, and a wide variety of useful activities have been identified, such as anti-tumor, anti-radiation, anti-infection, alleviation of posterior cataract, and relieving asthma. It has also become clear that LPS regulates homeostasis through oral and/or transmucosal administration rather than vascular administration. A paradigm shift is indeed taking place regarding the physiological role of LPS. These activities of LPS could be due to its regulatory role of mainly innate immunity.

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