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Oligosaccharides from Agar Inhibit Pro-Inflammatory Mediator Release by Inducing Heme Oxygenase 1

(寒天由来オリゴ糖はヘムオキシゲナーゼ 1 誘導により炎症性メディエータの放出を阻害する)

We investigated whether agaro-oligosaccharides have any immunological effects on RAW264.7 mouse macrophages and human monocytes *in vitro*. We demonstrate that agaro-oligosaccharides suppressed the elevated levels of nitric oxide, prostaglandin E_2, and such pro-inflammatory cytokines as tumor necrosis factor-α, interleukin-1β and interleukin-6 in lipopolysaccharide-stimulated monocytes and macrophages. We also demonstrate that those effects of agaro-oligosaccharides on activated monocytes and macrophages may have been caused by heme oxygenase-l induction. It is therefore proposed that agaro-oligosaccharides might be a good candidate for a functional food to prevent inflammatory diseases.