

**Ramberg JE, Nelson ED, Sinnott RA. Immunomodulatory Polysaccharides: A Review of Human Oral Studies. Presented at the Scripps Center for Integrative Medicine's 7th Annual Natural Supplements Conference, La Jolla, California. January 21-24, 2010**

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**ABSTRACT**

Despite growing interest in the health benefits of dietary polysaccharides, a review of their immunomodulatory effects on humans following oral ingestion has not been published. Much of the immunomodulatory polysaccharide literature consists of *in vitro* studies, animal studies, or studies in which polysaccharides were injected or administered intravenously. For clinicians interested in their effects following dietary intake, the value of such studies is uncertain. We thus conducted a thorough search of the scientific literature—primarily using PubMed and Google Scholar—for studies investigating the immunomodulatory effects of orally ingested polysaccharides. We found 25 human studies

investigating 12 polysaccharide products from the brown algae *Undaria pinnatifida*, the blue-green algae *Arthrospira platensis*, the western larch tree (*Larix occidentalis*), aloe vera gel and numerous fungi. Study durations ranged from four days to over five years; daily doses, ranging from 100 mg to 30 g, were reported to be well-tolerated. These studies indicate that oral intake of glucans, fucoidans, arabinogalactans and mannans can modulate immune response in humans. The immunomodulatory effects on animals following oral ingestion— which will be the subject of a separate publication—suggest that additional polysaccharide products deserve further study on humans.