Biological Function of Chondroitin Sulfate

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Summary
Chondroitin sulfate is widely used as a material for food ingredient, cosmetics, and medicine. Recently, the use of Chondroitin sulfate for the symptomatic treatment of osteoarthritis has become very popular. However, it has also been the subject of controversy on pharmaceutical effects of this polysaccharide for several reasons. The nutraceutical industry is less regulated than the pharmaceutical industry and the nutraceutical chondroitin sulfate often suffers from poor quality control: The bioavailability of orally administered Chondroitin sulfate is not generally accepted: The mechanism of the effect of Chondroitin sulfate for treatment of osteoarthritis remains unclear. On the other hand, there is abundant in vitro and in vivo evidence from animal and human clinical studies demonstrating the efficacy and safety of chondroitin sulfate. This article is focusing on the immunological activity of structurally regulated chondroitin sulfate. The mechanism of this immunological activity appears to be through chondroitin sulfate binding to receptors related to cytokine production in lymphocytes such as splenocytes.