



## Microbial levan and its healing effects

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**Statement of Problem:** In recent years, several researches have been conducted for the bioproduction of microbial extracellular polysaccharides and their role in the ecosystem for more environmentally responsible products. In turn, this has prompted manufacturers to seek renewable raw materials with a good safety profile. Levan is one of microbial extracellular polysaccharides. Microbial levan has a wide range of applications in the food, pharmaceutical, cosmetic and commercial industrial sectors.

**Research Purpose:** Investigating the production of microbial levan as a bioactive compound and its healing effects.

**Research Method:** This research has been done in a systematic way.

**Results and Conclusion:** Levan is a fascinating  $\beta$ -(2,6)-linked fructose polymer. In nature, a variety of microorganisms and a limited number of plant species have the ability to produce levan from sucrose. Low intrinsic viscosity, high adhesive strength, ability to dissolve in water and biodegradability are distinctive features of levan which allow this extracellular polysaccharide to be widely used. A few applications of levan are described in this study e. g. anti-inflammatory, anti-AIDS, anti-tumor, anti-bacterial and antiviral effects. Levan also shows prebiotic effects. Industrially unfeasible downstream steps of fermenting levan make levan scaling-up difficult. Improvement of levan production has also been investigated.

**Keywords:** Levan, Exopolysaccharide, Polyfructane, Biopolymer.