

Microbial polysaccharides and their modification approaches: a review

ABSTRACT

Microbial polysaccharides can serve as renewable sources for hydrocolloids used in food, pharmaceutical, and other industrial applications. Xanthan, gellan, dextran, and alginate are among the common microbial polysaccharides in current use. Although only limited numbers of microbial polysaccharides are commercialized, several approaches to modify microbial polysaccharides are laid out to improve their functional and technological properties via physical and chemical cross-linking reactions. This review discusses the properties of microbial polysaccharides as well as several methods of physical and chemical cross-linking for polysaccharides modification.

Keyword: Microbial polysaccharides; Xanthan; Gellan; Dextran; Physical cross-linking; Chemical cross-linking