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# Antioxidant, antimicrobial, cell viability and enzymatic inhibitory of antioxidant polymers as biological macromolecules

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## Abstract

Polymeric antioxidants such as Catechinaldehyde Polycondensates, Catechin- acetaldehyde polycondensates, Flavonoid-grafted chitosan fibers, Ferulate hydrogel, Dextran ferulate hydrogel, Starch-quercetin conjugate, Gallic acid- and Caffeic acid-functionalized chitosan, Gallic acid – chitosan conjugate, Poly(rutin) , Gallic acid grafted chitosan, Dextran-Catechin Conjugate belong to biological macromolecules. These kinds of compounds have stronger antioxidant potential and pharmacokinetic activities, as compared to similar low molecular weight preservatives. Most of these compounds sources are either antioxidants with low molecules polymerization, or polymers conjugation such as synthetic or natural preservatives. Additives are well known as being an important ingredient of food products due to their strong preservative potential. Many researchers and industries attempt to find synthesize materials with the same antioxidant potential and higher stability than the similar compounds with low molecular weight. Recently, macromolecular antioxidants have received wide attention as food additives and dietary supplements in functional foods. It seems that the main usage of these compounds is in the food packaging industry. Most of these compounds have strong antioxidant, antimicrobial, cell viability and enzymatic inhibitory properties.

**Keywords:** Antimicrobial; ; ; , Antioxidant, Cell viability, Enzymatic inhibitory, Biological Macromolecules and Polymeric antioxidants

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