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# Preparation, deproteinization, characterisation, and antioxidant activity of polysaccharide from cucumber (*Cucumis sativus* L.)

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## Highlights

- The optimal deproteinization method of cucumber polysaccharide was discussed.
- The cucumber polysaccharide was  $\beta$ -glycosidic linkage.
- The cucumber polysaccharide consists of 8 monosaccharides.
- The cucumber polysaccharide had high scavenging ability to superoxide anions.

**Abstract:** Preparation, deproteinization and antioxidant activity of polysaccharide from cucumber (*Cucumis sativus* L.) were investigated. The crude cucumber polysaccharide was extracted by hydrothermal method. It showed that the trichloroacetic acid (TCA) method had the higher deproteinization percentage, but a little higher polysaccharide loss percentage than the  $\text{CaCl}_2$  method. The cucumber polysaccharide is linked by the  $\beta$ -glycosidic linkage. It consisted of D-glucose, D-mannose, D-galactose, L-rhamnose, D-xylose, L-arabinose, D-glucuronic acid, and D-galacturonic acid. Their mole ratio was 6.00:4.03:8.31:2.82:2.75:6.60:1.05:5.79. Moreover, it proved that the cucumber polysaccharide had high scavenging ability to superoxide anions.

**Keywords:** polysaccharide from cucumber (*Cucumis sativus* L.), preparation, deproteinization, characterisation, antioxidant activity

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