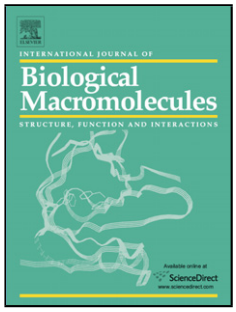

Title: Preparation, deproteinization, characterisation, and antioxidant activity of polysaccharide from cucumber (*Cucumis saticus* L.)

Authors: Ling Chen, Gangliang Huang, Jinchuan Hu

PII: S0141-8130(17)34070-9
DOI: https://doi.org/10.1016/j.ijbiomac.2017.12.034
Reference: BIOMAC 8695

To appear in: *International Journal of Biological Macromolecules*

Received date: 30-10-2017
Revised date: 18-11-2017
Accepted date: 5-12-2017

Please cite this article as: Ling Chen, Gangliang Huang, Jinchuan Hu, Preparation, deproteinization, characterisation, and antioxidant activity of polysaccharide from cucumber (Cucumis saticus L.), International Journal of Biological Macromolecules https://doi.org/10.1016/j.ijbiomac.2017.12.034

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

Ling Chen, Gangliang Huang*, Jinchuan Hu

Active Carbohydrate Research Center, College of Chemistry, Chongqing Normal University, Chongqing, 401331, China

E-mail: huangdoctor226@163.com

Highlights

- The optimal deproteinization method of cucumber polysaccharide was discussed.
- The cucumber polysaccharide was β-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 saticus* 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 $CaCl_2$ method. The cucumber polysaccharide is linked by the β-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 saticus* L.), preparation, deproteinization, characterisation, antioxidant activity