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Physicochemical properties and biological activities of polysaccharides from *Lycium barbarum* prepared by fractional precipitation

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Abstract

Traditional separation and purification process of *Lycium barbarum* polysaccharide (LBP) includes water extraction, alcohol precipitation, deproteinization and ion-exchange column chromatography, which is complicated and time-consuming. In our study, non-dialyzable LBP-I and dialyzable LBP-O were obtained from LBP by water extraction, alcohol precipitation and deproteinization. LBP-I was separated by fractional precipitation and three fractions (LBP-I-1, LBP-I-2 and LBP-I-3) were obtained. The three fractions were further purified by gel permeation chromatography to LBGP-I-1, LBGP-I-2 and LBGP-I-3 with yields of 0.05%, 0.03%, and 0.19%, respectively, which are higher than yields by traditional method. The physicochemical properties, biological activities of LBGP-I-1, LBGP-I-2 and LBGP-I-3 were

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