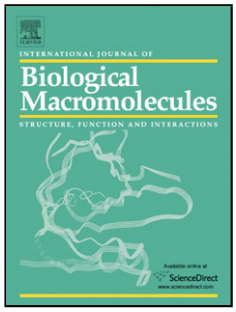

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Structure elucidation and immunological activity of a novel glycopeptide from mannatide

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Research highlights:

- A novel water-eluted glycopeptide was obtained from mannatide.
- Structure of polysaccharide moiety of the glycopeptide was determined.
- The immunological activity of glycopeptides was compared.

Abstract: A water-soluble glycopeptide, designated as MTW, was isolated and purified from crude mannatide by DEAE-Sepharose. MTW showed one symmetrical peak on HPGPC with an average molecular weight of 2.95×10^4 Da. MTW contained 16 kinds of amino acids and the total amino acid content was 0.95%. The structure of polysaccharide moiety of MTW was elucidated based on monosaccharide composition, methylation analysis, partial acid hydrolysis, IR and 1D/2D NMR spectroscopy. The results showed that MTW was a homogeneous glycopeptide including mannose and glucose with a molar ratio of 2:1. The polysaccharide moiety of MTW had a backbone of (1→6)-α-D-Man*p* residues, which highly branched at O-2 position of (1→2,6)-α-D-Man*p* residues. The side chains were mainly composed of (1→)-α-D-Man*p*, (1→2)-α-D-Man*p*, (1→4)-α-D-Glc*p*, (1→4,6)-α-D-Glc*p* residues.