Title An arabinogalactan from the skin of *Opuntia ficus-indica* prickly pear fruits

Authors Youssef Habibi , Mostafa Mahrouz , Marie-France Marais and Michel R. Vignon

Citation Carbohydrate Research Volume 339, Issue 6 , 28 April 2004, Pages 1201-1205

Keywords *Opuntia ficus-indica*; Prickly pear; Arabinogalactan; NMR

Abstract

The cold-water extract from the skin of *Opuntia ficus-indica* fruits was fractionated by anion-exchange chromatography. The major fraction, which was purified by size exclusion chromatography, consisted of a polysaccharide composed of galactose and arabinose residues in the ratio 6.3:3.3, with traces of rhamnose, xylose and glucose, but no uronic acid. The results of methylation analysis, supported by ^{13}C NMR spectroscopy, indicated that this polysaccharide corresponded to an arabinogalactan having a backbone of (1 $\rightarrow$ 4)-linked β -D -galactopyranosyl residues with 39.5% of these units branched at O-3. The side-groups consisted either of single -arabinofuranosyl units or -arabinofuranosyl α-(1$\rightarrow$ 5)-linked disaccharides. This polysaccharide is thus an arabinogalactan that can be classified in the type I of the arabinogalactan family.