An Escherichia coli antimicrobial effect of arabinoglucomannan from fruit of *Bryonia lacinosa*

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Extraction of the pulp of ripe berries of Bryonia lacinosa with 1% aqueous acetic acid yielded a polysaccharide material, having D-glucose, D -mannose and L -arabinose in the molar ratio of. 5.00 : 3.01 : 4.00. Hydrolysis of the fully methylated polysaccharide furnished 2,3,4,6-tetra- O-methyl-D -glucose, 2,3-di- O-methyl-D -glucose, 2,3,6-tri- O-methyl-D-mannose, 2,3-di- O-methyl-D -mannose and 2,3,5-tri- O-methyl-L-arabinose in 1:4:2:1:4 molar ratio. Partial hydrolysis of the polysaccharide furnished; mannobiose, epicellobiose, 6-O- β -L -arabinofuranosyl- D-glucose, 6- O- α -mannopyranosyl-D-mannose and epimaltose along with the component monosaccharides. On metaperiodate oxidation studies, 100 g of the polysaccharide liberated 0.055 mol of HCOOH consuming 0.7127 mol of periodate, indicating about 8.33% of the end groups. On the basis of the above results, a structure for the repeating unit of the polysaccharide has been proposed. The polysaccharide was tested for the microbial activity and was found to be active against Escherichia coli with a minimum dose of 6.25 mg/mL.