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## A Reticuloendothelial System-Activating Glycan from the Roots of *Astragalus membranaceus*\*

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From the hot water extract of the roots of *Astragalus membranaceus*, a glycan, designated as AMem-P, has been isolated by precipitation with cetyltrimethylammonium bromide followed by successive gel and affinity chromatographies on Toyopearl HW-60F and Con A-Sepharose columns. The glycan gave a single band on PAGE and a single peak on gel chromatography. AMem-P is composed of L-arabinose : D-galactose : L-rhamnose : D-galacturonic acid in the molar ratio of 6 : 9 : 8 : 30, in addition to small amounts of O-acetyl groups and a peptide moiety. About 10 % of the hexuronic acid residues in the glycan exist as methyl esters.

Chemical and spectroscopic studies established that the minimal unit of polysaccharide is composed of two terminal  $\alpha$ -L-arabinofuranose, four  $\alpha$ -1,5-linked L-arabinofuranose, two terminal  $\beta$ -D-galactopyranose, one  $\beta$ -1,3-linked D-galactopyranose, three  $\beta$ -1,4-linked D-galactopyranose, one  $\beta$ -1,6-linked D-galactopyranose, two  $\beta$ -3,6-branched D-galactopyranose, six  $\alpha$ -1,2-linked L-rhamnopyranose, two  $\alpha$ -2,4-branched L-rhamnopyranose and thirty  $\alpha$ -1,4-linked D-galactopyranosyluronic acid residues. Thus AMem-P possesses mainly  $\alpha$ -1,2-linked L-rhamno- $\alpha$ -1,4-linked D-galacturonan structure.

The glycan showed remarkable reticuloendothelial system-potentiating activity in the carbon clearance test.

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