

Title	A reticuloendothelial system-activating glycan from the seeds of malva verticillata
Sub Title	
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Publisher	共立薬科大学
Publication year	1989
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.34 (1989.) ,p.59- 59
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000034-0059

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A Reticuloendothelial System-Activating Glycan from the Seeds of *Malva verticillata**

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From the hot water extract of the seeds of *Malva verticillata*, a polysaccharide, designated as MVS-III A, has been isolated by fractionation on DEAE-Sephadex A-25 (carbonate) followed by gel chromatography on Sephacryl S-500 and affinity chromatography on Con A-Sepharose columns. The polysaccharide gave a single band on PAGE and gave a single peak on gel chromatography.

MVS-III A is composed of L-arabinose : D-xylose : D-galactose : D-galacturonic acid in the molar ratio of 16 : 1 : 8 : 3, and it contains a peptide moiety (1.7%). Its value of molecular mass was estimated to be about 8.5×10^6 .

The results of methylation analysis of the original polysaccharide and the carboxyl-reduced derivative and ^{13}C -NMR spectrum suggested that the minimal unit of the polysaccharide is composed of four terminal α -L-arabinofuranose, ten α -1,5-linked L-arabinofuranose, two α -1,3-linked L-arabinopyranose, one β -1,4-linked D-xylopyranose, four β -1,3-linked D-galactopyranose, four 3,6-branched β -D-galactopyranose and α -1,4-linked D-galacturonan residues. The periodate oxidation studies also supported these conclusions.

The effect of MVS-III A on a RES was demonstrated by the *in vivo* carbon clearance test. When administered i.p. (50 mg/kg), the phagocytic index of MVS-III A was 0.4492 ± 0.1048 . Thus the value was quite remarkably increased, suggesting powerful activation of RES by i.p. injection of MVS-III A.

The structural characterization of MVS-III A is both its high arabinose content and the presence of α -1,3-linked L-arabinopyranose residues. Most of the RES-activating polysaccharides from Oriental crude drugs contain arabino-3,6-branched galactan units in common as their major parts, though they have different types of backbone chain.

* 本報告は *Phytochemistry* 28, 2609—2611 (1989) に発表。