

PP41. WATER-SOLUBLE POLYSACCHARIDES OF SCUTELLARIA COMOSA

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The genus *Scutellaria* (scutellaria) is a valuable pharmacopoeial medicinal plant of the *Lamiaceae* family. This perennial herb is traditionally used in oriental medicine, due to the wide spectrum of activity of its herbal raw materials. In medicine, preparations of Baikal skullcap are used, which exhibit hypotensive, antiviral, anti-inflammatory, antitumor, vasoconstrictive, sedative and anticonvulsant properties, P-vitamin and antioxidant activity.

A water-soluble polysaccharide (WSPS) was isolated from the aerial part of *Scutellaria comosa* with a yield of 11%. The monosaccharide composition is represented by *Gal*(15.0%), *Glc* (3.9%), *Ara* (38.0%), *Rham* (6.9%), and *UAc* (36.2%). WRPS were separated on a DEAE-cellulose (OH-form) column. Neutral polysaccharides were eluted with water (3.0%), galactose, glucose, and arabinose were found in the hydrolyzate of the latter in a ratio of 2.6:3.4:3.4:1.0; acid polysaccharides (APS) were eluted with 0.5 M alkali, their yield was 89.0%; glucose, arabinose and uronic acid. Fractional precipitation of APS alcohol received 5 fractions (table 1). The isolated fractions differ in the qualitative and quantitative content of monosaccharides. Fraction I by monosaccharide composition refers to arabinoglucans (AG).

Table 1. Yield and monosaccharide composition of the *S. comosa* fractions.

Fractions	Output, %	Monosaccharide composition, %						
		<i>Gal</i>	<i>Glc</i>	<i>Ara</i>	<i>Xyl</i>	<i>Man</i>	<i>Rham</i>	<i>UAc</i>
I	24.0	-	70.7	29.2	-	-	-	75
II	25.0	11.7	24.7	10.8	22.8	14.4	15.4	60
III	5.0	8.1	53.5	16.8	11.6	9.7	-	45
IV	12.0	-	66.5	14.2	10.7	8.5	-	40
V	54.0	12.2	51.0	22.5	-	7.4	6.7	20

AG - white amorphous powder, soluble in water, staining with iodine does not give. Its molecular weight calculated from the calibration curve with dextrans (MM 80.000,40.000, 15-20.000) in the case of gel chromatography is 37.5 kDa. In the IR spectrum of AG there are absorption bands at 914 (α -glycosidic bond), 830 cm^{-1} (pyranose ring), 1240 and 1750 cm^{-1} (O-acetyl groups). Therefore, AG is a natively acetylated polysaccharide.