

Title	The carbohydrate structure of a mucilage from the roots of hibiscus moscheutos L.
Sub Title	
Author	友田, 正司(Tomododa, Masashi) 嶋田, 和代(Shimada, Kazuyo) 清水, 訓子(Shimizu, Noriko) 金成, 美枝子(Kanari, Mieko) 金子, 恵美子(Kaneko, Emiko)
Publisher	共立薬科大学
Publication year	1986
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.31 (1986.) ,p.37- 38
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000031-0037

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

The Carbohydrate Structure of a Mucilage from the Roots of *Hibiscus moscheutos* L.*

Masashi TOMODA, Kazuyo SHIMADA, Noriko SHIMIZU, Mieko KANARI,
and Emiko KANEKO

友田正司, 嶋田和代, 清水訓子, 金成美枝子, 金子恵美子

Many mucilages are found in various plants in the Malvaceae family. The roots and leaves of some plants have been used as emollients, demulcents, and as cough medicines. Further, some mucilages have been used as sizes and as a plasma expander. In the previous papers of this series, the isolation and structural features of representative mucilages from the roots and leaves of *Althaea officinalis* L., the roots of *Abelmoschus manihot* MEDICUS, the roots of *Abelmoschus glutinotextilus* KAGAWA, the immature fruits and roots of *Abelmoschus esculentus* MOENCH, and the roots and leaves of *Althaea rosea* CAVAILLES have been reported from our laboratory.

These studies are concerned with the mucilages from plants in the *Althaea* and *Abelmoschus* genera, but no structural study on the mucilages from plants in the *Hibiscus* genus has been reported thus far. We now report the isolation and structural investigation of a representative mucilage from the roots of *Hibiscus moscheutos* L.

The mucilage was isolated from the fresh roots by sequential cold-water extraction, ethanol precipitation, selective precipitation with cetyltrimethylammonium bromide, ethanol precipitation, gel chromatography with Sephadex G-25, and lyophilization.

The mucilage was homogeneous as determined by ultracentrifugal analysis, and gave a single spot on zone electrophoresis with a cellulose acetate membrane and with glass-fiber paper. In addition, it gave a clear band on polyacrylamide gel disk electrophoresis. Both the periodate-Schiff reagent and the coomassie blue reagent revealed the band in the same position. Further, it gave a single peak on gel chromatography with Sephacryl S-400. The mucilage had $[\alpha]_D^{25} + 48.5^\circ$, and its aqueous solution gave the high intrinsic viscosity value of 32.2 at 30°. Gel chromatography with standard dextrans gave a value of 1,900,000 for the molecular weight. The name "Hibiscus-mucilage Mo" is proposed for this substance.

As component sugars of the mucilage, rhamnose, galacturonic acid, and glucuronic acid were identified. The carboxyl groups of hexuronic acids in the mucilage were reduced to give the corresponding neutral sugar residues. The carboxyl-reduced derivative thus obtained contained component sugars in almost equimolar proportions. Quantitative determination showed that the mucilage contained 22.5% rhamnose, 24.5% galacturonic

* 本報告は *Carbohydr. Res.*, 151, 29—35 (1986) に発表.

