

[PD2-4] [04/21/2000 (Fri) 14:50 – 15:50 / [1st Fl, Bldg 3]]

Antibacterial Activity of the Essential Oil from the Herbs of *Agastache rugosa* and Its Composition

Park HJ⁰1, Kwon SH1, Kim GT1, Choi MY2, Jung WT3, Lee HK4

1Division of Applied Plant Sciences, Sangji University, 2Department of Food & Nutrition, 3Central Research Institute, Il-Yang Pharm. Co., 4Biomaterial Research Division, Korea Research Institute of Bioscience and Biotechnology

The essential oil obtained by steam distillation from the herbs of *Agastache rugosa* showed significant antibacterial activities against putrefactive bacterial strains. For the elucidation of the volatile components, the essential oil was analyzed by GC-MS. Each component was identified by GC or mass spectral analysis. The identified compounds were as follows: isomenthone, menthone, dihydrocarvone, anethole, vanillin, eugenol, methyleugenol, beta-caryophyllene, beta-caryophyllene oxide. Several abundant components with phenylpropanoid -type structures were maybe contributable to the activity. This essential oil will be suitable for the development of a food preservative.

[PD2-5] [04/21/2000 (Fri) 14:50 – 15:50 / [1st Fl, Bldg 3]]

Two novel and two known cytotoxic Mono-tetrahydrofuran Acetogenins from *Annona cherimolia* seeds

Kim DH⁰, Chung SO, Woo MH

Department of Pharmacy, College of Pharmacy, Catholic University of Taegu-Hyosung

The Annonaceous acetogenins are a class of promising anticancer, antiinfective, and pesticidal natural products. Over 350 acetogenins, usually belonging to mono-, bis-, and tri-tetrahydrofuran (THF) groups, have been previously reported. Annonaceous acetogenins are powerful inhibitors of glutamate-dependent mitochondrial respiration, in both mammalian and insect systems, where they inhibit mitochondrial NADH: CoQ oxidoreductase activity; they also are powerful inhibitors of the plasma membrane NADH oxidase of tumor cells.

Used in traditional medicine as insecticide and parasiticide, *Annona cherimolia* Mill. (Annonaceae) is a traditional tree native to Peru, now cultivated for its edible fruits in the South of Spain.

Previous work on the seeds led to the isolation of eight novel and four known; in addition, two novel (Annomolone D and Annomoline) and two known (annonacin and annomontacin) Annonaceous acetogenins have been obtained from the seeds. All of the compounds are acetogenins of annonacin type. Annomolone D has a mono-THF ring with two flanking hydroxyls and possesses a 1,2-diol of the aliphatic chain. Annomoline has a mono-THF ring with two flanking hydroxyls, and it possesses a carbonyl group and a double bond in their molecules. Annonacin and annomontacin were known but were newly isolated from this plant.

[PD2-6] [04/21/2000 (Fri) 14:50 – 15:50 / [1st Fl, Bldg 3]]

A New Prenylated Flavanone from the Roots of *Sophora flavescens*

Kang SS1, Kim JS⁰1, Son KH2, Chang HW3, Kim HP4, Yoo SW1, Byun JH1, Han SJ1 and Xu YN1

1Natural Products Research Institute, Seoul National University, 2Department of Food and Nutrition, Andong National University, 3College of Pharmacy, Yeongnam University, 4College of Pharmacy, Kangwon National University

A new prenylated flavanone, named 5-methylsophoraflavanone B, was isolated from the roots of *Sophora flavescens* Ait. (Leguminosae). The structure of the new compound was elucidated as (2S)-7,4'-dihydroxy-5-methoxy-8-(γ,γ -dimethylallyl) flavanone on the basis of chemical and spectral evidence. In addition, lupenone, pterocarpin, umbelliferone, daidzein were also isolated and identified.

[PD2-7] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Evaluation of Musk by Enzyme-linked Immunosorbent Assay

Ahn KS^o, Hahn BS, Lee JP¹, Chang SY¹, Lee HK², Kim YS*

Natural Products Research Institute, Seoul National University, Seoul 110-460, ¹ Division of Natural Medicines Standardization, Korea Food & Drug Administration, Seoul 122-704, ² KRIBB, Taejeon 305-600, Korea

Musk is the dried secretion from the preputial follicles of the male musk deer (*Moschus moschiferus* Linne). It is one of the famous traditional Chinese medicines used as a cardiac and general stimulant, an aphrodisiac, and an anti-spasmodic. Since 1973, its usage has been limited by the CITES (Convention on International Trade in Endangered Species) of Wild Fauna and Flora. The quality control of musk is generally being conducted by the determination of muscone using by gas-chromatography. However, muscone can be synthesized and now it is commercially available. This came up with the development of a new analytical method for the discrimination between real and false ones. Musk was extracted with ethylacetate/methanol (9:1, v/v) and the residue was dipped in a cold water. The dried extract was then applied onto a Bio-Gel P-100 chromatography. The peak showing in the void region was collected and purified with affinity chromatography on DEAE Affi-Gel Blue and anion-exchange column on DEAE Sepharose CL-6B, consecutively. This protein was assessed as homogeneous by SDS-PAGE under denaturing conditions and it had a molecular mass of 38,000 Da. The polyclonal antibodies to this protein were produced by injecting to the rabbits. These antibodies were quite reactive to the musks as well as the pure antigen. An enzyme-linked immunosorbent assay (ELISA) could be applied in order to get the information on the quality control of musks originated from the different musk deers.

[PD2-8] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Phenolic compounds of *Rhodiola sachalinensis*

Lee YA, Cho SM^o, Kim JS, Kim KH, Lee MW

Chung-Ang University

Phenolic Compounds of *Rhodiola sachalinensis*

이연아, 조수민, 김준식, 김광호, 김세원, 이민원

Rhodiola sachalinensis have been used as a traditional medicine for the remedies of asthma and also known to have tonifying and anti-aging activities in northeastern Asia. This plant grows high altitude and rocks in alpine region at northern part of Korean peninsula, China and Japan.

We reported several phenolic compounds from this plant and further examination of the root of *Rhodiola* has led to the isolation of five phenolic compounds. Structures of these compounds were identified as kaempferol 3-O-glucoside, rhodiosin, rhodiolin, (4'-O-Methylgalloyl) epigallocatechin and salidroside by the analysis of spectroscopic evidences and comparison with authentic samples.