

In the course of our researches for biologically active compound from Korean algae, purification of the methanolic extracts of two brown algae (*Sagassum Sagamianum* and *Ishige Okamurae*) collected off Jeju Island afforded an antioxidant polyphenolic compound (1). The molecular formula of 1 was established as C<sub>24</sub>H<sub>16</sub>O<sub>13</sub> on the basis of the FAB mass and <sup>13</sup>C NMR spectrum. Its structure was elucidated by detailed analysis of 2D NMR data of 1. Compound 1 was named as hydroxyphloroecol. Compound 1 showed potent radical scavenging effect on DPPH radicals with RC<sub>50</sub> value of 7 µg/ml.

[PD2-19] [ 04/18/2003 (Fri) 13:30 – 16:30 / Hall P ]

**A Rapid Manufacturing Process of Crude Cordycepin Containing Adenosine (CCCA) from Cultured Fruiting Bodies of *Cordyceps Militaris* (CM) for Developing Anti-leukemic Agents.**

Lee SeungJung<sup>01</sup>, Kwon OhSeung<sup>2</sup>, Park EunA<sup>2</sup>, Ko SungKwon<sup>3</sup>, Kim HaWon<sup>4</sup>, You ByeongJin<sup>5</sup>, Lee JaeHee<sup>6</sup>, Lee MinWon<sup>6</sup>

<1>C. M. Biotec, Kangnung; <2>BBRC, Korea Inst. of Sci. and Tech.; <3>Korea Ginseng Inst., Chung-Ang Univ.; <4>Dept. of Life Sci., Univ. of Seoul; <5>Dept. of Food Sci., Kangnung National Univ.; <6>College of Pharmacy, Chung-Ang Univ.

Anti-tumor, anti-viral and anti-leukemic activity of cordycepin are well known. Adenosine was reported to induce an apoptosis in human leukemia cells. CM has been widely used as traditional medicinal herbs in China. Previously, we reported the results relating the isolation and characterization of cordycepin and adenosine from the cultured fruiting bodies of CM. We further studied the manufacturing process of CCCA for the purpose of developing anti-leukemic agents. Water extract of cultured fruiting bodies was concentrated with a vacuum evaporator at 70°C, and it was diluted three times with water. And about 8 times of its volume of 99% ethanol was added to the water extract. The supernatant was decanted and concentrated at 55°C. The ethanol precipitate was discarded. The concentrate of ethanol-soluble supernatant was diluted with water, and its diluted solution was used to prepare CCCA. The CCCA was further purified using the strong cation exchange resin SK1B (Diaion), the strong anion exchange resin SA21A (Diaion) and synthetic adsorbents HP20. The contents of cordycepin and adenosine in CCCA analyzed by HPLC were 164 mg/g (16.4%) and 253 mg/g (25.3%), respectively. Contents of cordycepin and adenosine calculated in dried fruiting bodies resulted in 1068 mg/kg (0.11%) and 1349 mg/kg (0.14%), respectively. This method can be applied to the rapid manufacturing process of CCCA.

[PD2-20] [ 04/18/2003 (Fri) 13:30 – 16:30 / Hall P ]

**Cytotoxic constituents of the roots of *Zingiber cassumunar* Roxb.**

Han Ah-Reum<sup>1</sup>, Lee Eun-Jin<sup>1</sup>, Park Gwooni<sup>01</sup>, Windono Tri<sup>2</sup>, Jeohn Gwang-Ho<sup>2</sup>, Lee Sang Kook<sup>1</sup>, Seo Eun-Kyoung<sup>1\*</sup>

<sup>1</sup>College of Pharmacy, Ewha Womans University, Seoul 120-750, Korea; <sup>2</sup>Faculty of Pharmacy, University of Surabaya, JL. Raya Kalirungkut, Surabaya 60293, Indonesia

Two phenylbutenoids, 4-(3',4'-dimethoxyphenyl)buta-1,3-diene (1) and 4-(2',4',5'-

trimethoxyphenyl)buta-1,3-diene (2), were isolated from the roots of *Zingiber cassumunar* Roxb. (Zingiberaceae), as active constituents by bioassay-guided fractionation using a cytotoxicity assay against the HT1080 (human fibrosarcoma) cells. The isolates 1 and 2 exhibited a significant cytotoxicity with  $IC_{50}$  values of 0.71 and 0.74  $\mu\text{g/ml}$ , respectively, which are comparative to the positive control ellipticine ( $IC_{50} = 1.1 \mu\text{g/ml}$ ). To the best of our knowledge, this is the first report on the cytotoxic activity for those compounds 1 and 2. The isolation and cytotoxic activity will be discussed in the presentation.

[PD2-21] [ 04/18/2003 (Fri) 13:30 - 16:30 / Hall P ]

### Saucerneol B with Hepatoprotective Effect of the Roots of *Saururus chinensis*

Kim MiHee<sup>o</sup>, Park EunJeon, Jun JungYang, Ko Eun Kyung, Park SungEun, Park SungUk, Sohn DongHwan, Kim YounChul

Spela Co., Ltd.:College of Pharmacy, Wonkwang University

In order to find the new hepatoprotective agents from natural products, the isolation and identification of biological active components of the roots of *Saururus chinensis* has been carried out. A MeOH extract of this plant showed the significant hepatoprotective effect on tacrine-induced cytotoxicity in Hep G2 cells. Five lignans including sauchinone, manassantin A, manassantin B, saucerneol B, and di-*O*-methyltetrahydrofuroguaiacin B were isolated and identified by spectroscopic evaluation. Of these saucerneol B exhibited the significant hepatoprotective effect *in vitro*. It showed a dose-dependent hepatoprotective effect.

[PD2-22] [ 04/18/2003 (Fri) 13:30 - 16:30 / Hall P ]

### Catechin with Hepatoprotective Effect of the Leaves of *Juglans sinensis*

Kim MiHee<sup>o</sup>, Jun JungYang, Ko Eun Kyung, Park SungUk, An NyeongHyung, Kim YounChul

Spela Co., Ltd.:College of Pharmacy, Wonkwang University

There is now increasing evidence that free radicals and active oxygen species are involved in a variety of pathological events. Free radical-mediated cell damage and free radical attack on polyunsaturated fatty acids result in the formation of lipid radicals. These lipid radicals react readily with molecular oxygen to produce peroxy radicals responsible for initiating lipid peroxidation. The peroxidation of cellular membrane lipid can lead to cell necrosis and considered to be implicated in a number of pathophysiological conditions including liver disease. A MeOH extract of the leaves of *Juglans sinensis* was examined for its scavenging effect on DPPH and hepatoprotective effects on tacrine-induced cytotoxicity in human hepatoma cell line, Hep G2 cells. Assay-guided fractionation has been furnished six phenolic compounds. Of these catechin showed the significant hepatoprotective effect *in vitro*. It showed a dose-dependent hepatoprotective effect *in vitro*.

[PD2-23] [ 04/18/2003 (Fri) 13:30 - 16:30 / Hall P ]

### Radical scavenging and tyrosinase inhibitory activities from the herbal drugs

Ryu SungYoun<sup>o</sup>, Kim YounJu, Chun KyungSoon, Yang KiSook