

## **Belamcandae Rhizoma**

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The present study was carried out to clarify whether isoflavonoids isolated from *Belamcandae Rhizoma* (Iridaceae) inhibit inflammation and angiogenesis by the experimental methods in vitro and in vivo. Among the isolated isoflavonoids, such as irigenin, irisfloreline, and iristectorene B inhibited nitric oxide (NO) production, as measured by nitrite formation at 3-30  $\mu$ M. Also these compounds reduced cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS) enzyme expression in a concentration dependent manner, when measured by western blotting, at 3-30  $\mu$ M. Irogenin, irisfloreline and iristectorene B decreased angiogenesis of chick embryos in the chorioallantoic membrane assay. These compounds also reduced the proliferation of calf pulmonary arterial endothelial (CPAE) cells and found to possess relatively weak gelatinase/collagenase inhibitory activity in vitro. These compounds, when administered subcutaneously at the dose of 30 mg/kg for 20 days to mice implanted with murine Lewis lung carcinoma (LLC), caused a significant inhibition of tumor volume. Therefore, antiangiogenic activities of isoflavonoids from *Belamcandae Rhizoma* might be due to antiproliferative activities under inhibition the induction of COX-2 and iNOS enzyme.

[PD2-44] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]

### **Antioxidant activity of flavonoid compounds from *Cudrania tricuspidata* Leaves**

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*Cudrania tricuspidata* have been used for anti-inflammatory, anti-hepatotoxic, anti-hypertensive and anti-diabetic activities. In this study, in order to investigate the efficacy of antioxidant activity, the bio-activity guided fraction and isolation of physiologically active substance were performed. H<sub>2</sub>O, 30%, 60%, 100% MeOH and acetone fractions were examined antioxidant activity by DPPH method. It was revealed that 30%, 60%, 100% MeOH fractions have significantly antioxidant activity. From 30% MeOH fraction, two dihydro flavonoid glycosides (dihydroquercetin 7-O-glucoside, dihydrokaempferol 7-O-glucoside) were isolated and 60% MeOH fraction, six flavonoid glycosides (quercetin 3-O-rutinose, quercetin 3-O-glucoside, quercetin 7-O-glucoside, kaempferol 3-O-rutinose, kaempferol 3-O-glucoside, kaempferol 7-O-glucoside) were isolated. To investigate the antioxidant activities of each compounds, we were measured radical scavenging activity with DPPH method and anti-lipid peroxidative efficacy on low density lipoprotein(LDL) with TBARS assay.

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### **Two acyl phenol glucosides as Inhibitors of iNOS from *Populus davidiana* in LPS-activated macrophages**

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Nitric oxide (NO) produced in large amounts by inducible nitric oxide synthase (iNOS) is known to be responsible for the vasodilation and hypotension observed in septic shock and inflammation. Inhibitors of iNOS, thus, may be useful candidate for the treatment of inflammatory diseases accompanied by the overproduction of NO. We prepared alcoholic extracts of woody plants and screened the inhibitory activity of NO production in lipopolysaccharide (LPS)-activated macrophages after the treatment of these extracts. Among 83 kinds of plant extracts, 23 kinds of extracts showed potent inhibitory activity of NO production above 60% at the concentration of 80  $\mu$ g/ml. Some of potent extracts showed dose dependent inhibition of NO production of LPS-activated macrophages at the concentration of 80, 40, 20  $\mu$ g/ml. Especially, *Artemisia iwayomogi*, *Machilus thunbergii*, *Populus davidiana* and *Populus maximowiczii* showed the most potent inhibition above 70% at the concentration