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Septic shock is a complex pathophysiologic state which often leads to multiple organ dysfunction, multiple organ failure and death. It is the most common cause of death in intensive care units. Moutan Cortex is used as analgestic, sedative, antibacterial and antiinfalmmatory agent in Korean traditional medicine. By activity-guided isolation, we isolated twelve compounds. The structure of these compounds were determined by spectroscopic methods. Among these compounds. paeonol, oxypaeoniflorin and 2,5-dihydroxy-4- methoxyacetophenone showed the inhibitory effects against lethality induced by LPS.

[PD2-34] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Inhibitors of Nitric Oxide Synthesis from Artemisia iwayomogi in Activated Macrophages

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The overproduction of nitric oxide (NO) by inducible nitric oxide synthase(iNOS) is one of the major characteristic features of inflammation and sepsis. Therefore, we intended to find the iNOS inhibitors from natural products. In order to find out iNOS inhibitor, RAW 264.7 cells were activated by lipopolysaccharide(LPS) in the presence of plant samples. Then the amount of NO formed by iNOS was determined by using Griess reagent in the form of NO_2^-.

The methnol extract of *Artemisia iwayomogi* was fractionated with Ether, EtOAc and BuOH sequentially. Activity-guided purification process was performed with ether fraction of *A. iwayomogi* by using repeated silicagel chromatography and reverse phase semi-prep HPLC. Four compounds from *A.iwayomogi* were identified as active principles. The structure of one of them was determined as *1β,3α*-dihydroxyarbusculin (armefolin) by spectroscopic method and its IC_{50} values (the concentration required for 50% inhibition of NO production) was 2.5 μM. This new inhibitor of iNOS may have potential in the treatment of endotoxemia and inflammation accompanied by the overproduction of NO.

[PD2-35] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Studies on the Constituents and Anticancer Activity of Sophora subprostrata

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Sophora subprostrata Radix (Leguminosae) has been used as a Korean traditional medicine for the treatment of fever, inflammation, peptic ulcer and cancer. In our continuous research for anti-cancer agents from natural products, we found that the CH2Cl2 and EtOAc extracts of S. subprostrata showed cytotoxic activity against HCT116 and SNU638 cells. By means of bioactivity-guided fractionation, trifolirhizin (1), (-)-maackiain (2), 2-hydroxy-8,9-methylenedioxypterocarpan (3), lupeol (4), daidzin (5) 4',7-dihydroxyflavone (6) and (+)-syringaresinol (7) were isolated from these extracts. Among isolated compounds, trifolirhizin (1) exhibited cytotoxic effect on HL-60 cells (IC50 = 75.6 μg/ml), whereas (+)-syringaresinol (7) showed cytotoxicity on HepG2 cells (IC50 = 67.2 μg/ml). We found that the cytotoxic effect of trifolirhizin (1) was due to the induction of apoptosis in HL-60 cells, which was confirmed by observing the typical DNA fragmentation and PI staining. Furthermore, a new pterocarpan, 2-hydroxy-8,9-methylenedioxypterocarpan (3) was isolated. On the other hands, daidzin (5) and 4', 7-dihydroxyflavone (6) were first isolated from this plant.