[PD2-38] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Anti-lipid peroxidative effect of Polygoni Radix

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Polygoni Radix, the root of Polygonum cuspidatum (Polygonaceae) has been used as treatments of dermatitis, gonorrhrea, favus athlete's foot, inflammation in traditional medicine. Oxygen free radical injury and lipid peroxidation have been suggested as major causes of atherosclerosis, cancer, liver disease, and the aging process. In order to evaluate anti-lipid peroxidative effect, Polygoni Radix was fractionated and then its fractions were examined by liver homogenate MDA by TBARS assay and DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging activity. The results showed that EtoAc fraction and BuOH fraction had anti-lipid peroxidative effects.

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Isolation of the ppar-γ ligands from the stem of the Zanthoxylum Schinifolium and their structure activity relationships

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Abstract: Peroxisome proliferator-activated receptor (PPAR)-γ is a nuclear hormone receptor family that plays an important role in the transcriptional regulation of genes in cellular lipid and energy metabolism. In our search for ligands for PPAR-γ from natural resources, two phenylpropanoids, 3.4.5-Trimethoxy cinnamylalcohol (1) and 3.4.5-Trimethoxy cinnamaldehyde (2), were isolated as PPAR-γ agonists from the MeOH extracts of Zanthoxylum schinifolium Sieb. & Zucc. (Rutaceae) by activity-guided fractionation. These two compounds bind and activated PPAR-γ transcriptional activity in a dose dependent manner assessed by ligand-binding assay. While the maximum activities for PPAR-γ of these compounds were comparable with that of rosiglitazone, which is currently used in the treatment of Type II diabetes, the potency of these compounds were much weaker than rosiglitazone (ED_{50}=1.2μM) with the ED_{50} values of 9.08 and 4.08 μM, respectively. To examine the structure-activity relationship of phenylpropanoids, we prepared several phenylpropanoid derivatives and measured the activity. We observed that substituents at 4'- position could play a key role in determining the potency for PPAR-γ agonistic activity.

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Study on the Inhibition of Whole Blood Platelet-Aggregation and antioxidative effects from Rhus verniciflua Stokes

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Rhus verniciflua Stokes (RVS) is a widely used herbal plant with various biological properties. Our previous study using in vitro platelet aggregation in whole blood showed that ethyl acetate layer of RVS had strong anti-aggregatory activity. In this study, to investigate the anti-aggregatory activity and antioxidative effects of RVS ethyl acetate layer, the layer was subsequently fractionated by ODS column chromatograph (50% MeOH). As a result, the fraction 3 was most inhibited the aggregation of platelet in rat whole blood induced by thrombin and all fraction of RVS was detected strong antioxidative effect. These results suggested that fractions of Rhus verniciflua Stokes have potent anti-aggregatory and antioxidative activity.