

Renal dipeptidase (RDPase, EC 3.4.13.19), an ectoenzyme of renal proximal tubules, is covalently bound to outer leaflet of lipid bilayer via glycosylphosphatidylinositol (GPI)-anchor. The biological role of RDPase was suggested as the hydrolysis of dipeptide into free-amino acids before renal reabsorption. Chitin is a major component of the shells of crustacea such as crab, shrimp and crawfish. This study was investigated to examine the effect of chitosan, a deacetylated derivative of chitin which is the second most abundant natural biopolymer, on RDPase release from renal proximal tubules. Porcine proximal tubules were prepared with the protocol of Taub et al (1990) and were treated with chitosan (0.01, 0.1 and 1%) for 30 min at 37°C followed by centrifugation (18000g, 5min). The activity of released RDPase was assayed according to the fluorometric method of Ito et al (1984). It was observed that the RDPase release was increased as a function of chitosan concentration, up to approximately 2.5-folds at 1% of chitosan. Although we do not understand the mechanism of this increase, the results suggest that chitosan may elevate the renal function related to reabsorption of amino acids.

[PC1-14] [ 04/18/2002 (Thr) 14:00 - 17:00 / Hall E ]

### Antiplatelet Effect of Green Tea Catechins may be due to Inhibition of PLA<sub>2</sub> Activity

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Green tea is the dried young leaves of *Camellia sinensis*, also known as *thea sinensis* L., an infusion of which is widely consumed as a beverage. Green tea constituents, especially green tea catechins (GTC), exhibit a range of pharmacologic effects including anticarcinogenic activity and prevention of cardiovascular diseases. We have previously reported that GTC showed antithrombotic activity and that this antithrombotic action might be due to antiplatelet rather than anticoagulation effects. In this study the effect of GTC on the arachidonic acid (AA) pathway was investigated. GTC inhibited the platelet aggregation induced by AA (50  $\mu$  M) in a concentration-dependent manner with IC<sub>50</sub> value of 0.58 $\pm$ 0.02 mg/ml. GTC inhibited the phospholipase A<sub>2</sub> (PLA<sub>2</sub>) activity in a concentration-dependent manner. Pretreatment of GTC decreased the collagen-induced AA release in [<sup>3</sup>H]-AA incorporated platelet by an inhibition of the PLA<sub>2</sub> activity. GTC also inhibited the formation of TXA<sub>2</sub> and release of ATP caused by AA. These results suggest that the antiplatelet mechanism of GTC may be mediated by inhibition of PLA<sub>2</sub> activity which leads to the AA release, TXA<sub>2</sub> formation and inhibition of ATP release.

[PC1-15] [ 04/18/2002 (Thr) 14:00 - 17:00 / Hall E ]

### Essential Oils Inhibit the LPS-Induced Production of Nitric Oxide in Raw 264.7 Macrophages

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We investigated the effect of various essential oils on nitric oxide(NO) production in murine macrophage-like, RAW 264.7 cells. NO is important mediator in the pathogenesis of inflammatory disease. Our study was undertaken to screen the inhibition of NO production by essential oils isolated from various plants in RAW 264.7 cell. Two essential oils from *Ligularia fischeri* and *Chrysanthemum zawadskii* significantly inhibited the LPS-induced NO and prostaglandin E<sub>2</sub>(PGE<sub>2</sub>) generation in Raw 264.7 cells. Furthermore, protein expression level of iNOS and COX-2 was then reduced in concentration-dependent manner. We are further investigating the mRNA level by RT-PCR and NF- $\kappa$ B regulation.

[PC1-16] [ 04/18/2002 (Thr) 14:00 - 17:00 / Hall E ]