

the dose of 30 mg/kg, compared with the control. To confirm the localization of AS in tumor tissues, paraffin sections were prepared after 4% formaldehyde fixation. The fixed tissues were stained by alcian blue-periodic acid-Schiff's reagent. After subcutaneous injection, we found that AS was mainly localized on the outer membrane of tissues. Based on the fact, we performed an in vitro binding assay between AS and LLC by varying the incubation time and concentrations. The binding to cells was markedly increased when 50 ug/ml of the sample was incubated at for 5 h. Then, LLC surface proteins were biotinylated to identify the binding proteins to acharan sulfate. The biotinylated cells were lysed and collections were fractionated on AS affinity column with a stepwise salt gradient (0, 0.1, 0.3, 0.5, 0.7, 1.0, and 2 M). Each fraction was analyzed by SDS-PAGE and Western blotting. The blots were stained with a horseradish peroxidase(HRP)-conjugated streptoavidin and o-phenylenediamine. We focused on the proteins eluted at 0.7M and 1M NaCl, of which the molecular weights are approximately 92,000 and 118,000 Da, respectively. We speculate that AS binds tumor cell surface proteins that are related to the inhibition of tumor growth.

[PC1-25] [ 2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function ]

### **Polyunsaturated fatty acids regulate APP metabolism.**

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Polyunsaturated fatty acids (PUFAs) play many important physiological roles on cellular process through the regulations of intracellular signaling. Recent clinical studies suggest that PUFAs such as n-3 fatty acids (docosahexaenoic acid, 22:6 and  $\alpha$ -linolenic acid, 18:3) may reduce the risk of incident Alzheimer's disease (AD). And also the reports regarding the decrease of n-3 fatty acids in AD brain support the correlation between PUFAs and AD. AD is a neurodegenerative disorder with pathological hallmarks of amyloid plaques and neurofibrillary tangles. It is recognized that  $\beta$ -amyloid is closely associated with the etiology of AD.  $\beta$ -Amyloid and its co-metabolite APP $\beta$  are produced from amyloid precursor protein (APP) by the actions of  $\beta$ - and  $\gamma$ - secretase (amyloidogenic pathway). In addition, APP is also metabolized to p3 and APP $\alpha$  by the actions of  $\alpha$ - and  $\gamma$ -secretase (non-amyloidogenic pathway). Here we tested whether different PUFAs (docosahexaenoic, palmitoleic, oleic, linoleic, linolenic, erucic, arachidonic, elaidic, nervonic and petroselinic acid) affect on APP metabolism using APP and  $\beta$ -secretase overexpressing HEK293 cells. The levels of sAPP $\alpha$ , sAPP $\beta$ , holo APP and  $\beta$ -secretase were measured and compared with each other.

[PC1-26] [ 2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function ]

### **Tyrosinase Inhibitory Prenylated Flavonoids from *Sophora flavescens***

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For the purpose of the development of a skin-whitening agent, *Sophora flavescens* was evaluated for tyrosinase inhibitory activity and its active principles were identified followed activity-guided isolation. The ethanol extract and dichloromethane fraction from *S. flavescens* showed significant inhibition of mushroom tyrosinase. From the dichloromethane fraction, three known prenylated flavonoids, sophoraflavanone G, kuraridin, and kurarinone, were isolated. Compared with kojic acid ( $IC_{50}=20.5 \mu M$ ), these compounds possessed more potent tyrosinase inhibitory activity. The  $IC_{50}$  values were 6.6, 0.6, and 6.2  $\mu M$  for sophoraflavanone G, kuraridin, and kurarinone, respectively.

[PC1-27] [ 2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function ]

### **Aromatic diamine JSH-21 inhibits LPS-induced NO production by targeting NF-kB**