drugs. We could also determine the plasma concentration of AS even 5 hours after administration to rats. Conclusion: These results show that the longer duration of AS in blood has a possibility to interact with coagulation factors.

[PA1-61] [2003-10-10 14:30 - 17:30 / Grand Ballroom Pre-function]

gInhibition effect of nitric oxide production and NF-κB nuclear translocation by 2-hydroxycinnamaldehyde in RAW 264.7 cells

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Cinnamaldehyde is the main component of cinnamon bark oil and show several biological activities such as anti-tumor, anti-fungal, anti-mutagenic and anti-inflammatory effects. A couple of studies have investigated how the natural compound exerts its anti-inflammatory effect. In despite of numerous investigations, the biological mechanism of effects belong to cinnamaldehyde remain unclear. We isolated 2-hydroxycinnamaldehyde(HCA) from the bark of Cinnamomun cassia Blume and reported a various of biological activities of HCA. HCA also exert several biological effects as much as that of cinnamalgehyde. In this study, we investigated anti-inflammatory effects of 2-hydroxycinnamaldehydes and putative mechanisms of its action in Raw 264.7 cells. HCA inhibited Nitric Oxide(NO) production in RAW 264.7 cells, which IC_{50} value was 1.3μM. Using gel shift assay, we showed that HCA inhibit activation of the transcription factor NF-κB, a central regulator of NOS and inflammatory response of body. We are also investigating of other molecular mechanism of HCA; Whether HCA can inhibit COX-2 expression, and thereby inhibit prostaglandin E2 production, another important inflammatory mediator through interfering NF-κB activation. We provide evidence that HCA is a potent anti-inflammatory agent and could serve as lead compounds for the development of pharmaceutically used anti-inflammatory remedies.

[PA2-1] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Histone deacetylase inhibitor Trichostatin A enhanced the efficiency of adenovirus mediated gene transfer into non-small cell lung cancer cells

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One of the major limitations in using adenoviral vector for gene therapy is inefficient infection of host cells. The presence of coxsackievirus and adenovirus receptor (CAR) and α-integrin on cell surfaces is required for efficient adenovirus infection. In this study, we investigated the effect of trichostatin A, a histone deacetylase inhibitor, on transfection efficiency after transduction of adenovirus mediated $p16^{INK4a}$ gene transfer. In our previous study, $p16^{INK4a}$ tumor suppressor gene transfer in the non-small cell lung cancer cells (A549 cells) by transduction of recombinant adenovirus (Ad5CMV-p16) resulted in significant inhibition of cancer cell proliferation. We found that A549 cells treated with trichostaitn A prior to adenoviral vector (Ad5CMV-LacZ) infection had an increase in expression of β-galactosidase. $p16^{INK4a}$ gene expression was also increased in A549 cells after combination treatment of trichostatin A and Ad5CMV-p16 by RT-PCR. On the other hand, there was only weak combination effect of trichostatin A and Ad5CMV-p16 in normal lung cell lines (CCD-16, MRC-9). Currently, we are investigating the effect of trichostatin A on CAR expression level. These studies suggest that trichostatin A increases the efficiency of adenoviral transgene expression in cancer cells and this combination therapy may be useful in cancer gene therapy.

[PA2-2] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Biodistribition of [^{125}I]-labeled biotinylated dendrimer derivatives for antibody pretargeting

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It is desirable to improve the tumor targeting and blood clearance pharmacokinetics of radiolabeled monoclonal antibodies. To achieve this goal, several avidin-biotin (Bt) binding systems have been developed to decouple large molecular weight antibodies from small radiolabels, thereby achieving high tumor-to-background radioactivity ratios. We inserted a readily catabolizable linker, triglycine (TG), between 3-[^{125}I]iodobenzoate and dendrimer (G3). We also neutralized the positive charges of G3 by acylation with tetrafluorophenyl glycolate, thereby blocking proximal tubular reabsorption of G3 mediated by charge attraction. [^{125}I]MIB-TG-G3-norBt rapidly cleared from the blood (0.95% ID/g) and highly accumulated in the liver (13.2% ID/g), kidney (132.4% ID/g), and spleen (6.4% ID/g) at 0.33 hr. Thereafter this product was gradually decreased in the kidney (66.7% ID/g) and spleen (5.3% ID/g) at 3 hr. Similar to organ uptake, the whole body retention of [^{125}I]MIB-TG-G3-norBt gradually decreased from 69.1% ID (0.33 hr) to 42.9% ID (3 hr). In contrast, the [^{125}I]MIB-TG-(G3-Glycol)-norBt produced a significant decrease in liver (4.5% ID/g) and kidney (19.9% ID/g) uptake compared with [^{125}I]MIB-TG-G3-norBt at 0.33 hr. In addition, the whole body retention (27.1%, 14.1% and 7.1% ID at 0.33, 1 and 3 hr, respectively) was significantly lower than that of [^{125}I]MIB-TG-G3-norBt. The chemical modification by inserting a triglycine linker between G3 and MIB and neutralizing the positive charges by glycolation was effective in reducing the organ uptake and enhancing the WB clearance. This approach is worth considering for the use of At-211 labeled dendrimer-based biotin in a 3-step tumor targeting with pretargeted MoAb-strepavidin.

[PA2-3] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

A study on the evaluation of artificial cartilage using synthetic biodegradable polymers

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Tissue engineering has arisen to address the extreme shortage of tissues and organs for transplantation and repair. One of the most successful techniques has been the seeding and culturing cells on three-dimensional biodegradable scaffolds in vitro followed by implantaion in vivo. We used PLA and PLGA as biodegradable polymers and rabbit chondrocytes were isolated and applied to PLA and PLGA to make artificial cartilage. To evaluate the biocompatibility and biological safety of polymers, in vitro cytotoxicity and in vivo animal tests were investigated. PLA and PLGA showed excellent biocompatibility and no biological effects in animal. Rabbit articular chondrocytes were isolated and characterized using MTT assay, alcian blue staining, immunohistochemical staining, and RT-PCR for type-II collagen. Chondrocytes were easily dedifferentiated and lost their phenotype in monolayer culture, so we recommend to use 0 and/or 1st passage cells for seeding. For biological safety evaluation, we checked adventitous agents such as bacteria, fungi, mycoplasma and they were shown no effects. To evaluate the ability of these polymers for delivering chondrocytes, after seeding the cells, we characterized chondrocytes using immunohistochemistry. Based on these observations it is suggested that PLA and PLGA offer a promising approach to deliver chondrocytes to the cartilage defects.

[PA2-4] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

In vitro culture of skin cells on a crosslinked gelatin based scaffold for artificial skin

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