the brain, liver, kidney, erythrocytes, ocular tissues and in seminal fluids of mammals. This water soluble antioxidant has ability to scavenge hydroxyl and peroxynitrite radicals as well as activated oxygen species, such as singlet oxygen. In the present study, we investigated the effect of EGT on Aβ-induced oxidative and/or nitrosative cell death. Rat pheochromocytoma (PC12) cells treated with Aβ underwent apoptotic death as determined by positive in situ terminal end-labelling (TUNEL staining), decreased mitochondrial transmembrane potential ($\Delta\Psi m$), an increased ratio of proapoptotic Bax to antiapoptotic Bcl-X_L, elevated caspase-3 activity and the cleavage of poly(ADP-ribose)polymerase. EGT pretreatment attenuated Aβ-induced apoptosis in PC12 cells. As compared to N-aceryl-L-cysteine that mainly scavenges reactive oxygen species, EGT effectively inhibited Aβ–induced cell death by suppressing peroxynitrite formation and subsequent nitration of protein tyrosine residues. The effects of EGT on the cytotoxicity induced by the nitric oxide donor sodium nitroprusside (SNP) and the peroxynitrite-generating 3-morpholinosydnonimine chlorhydrate (SIN-1) were compared. While EGT significantly protected against SIN-1-mediated cell death, it barely affected the cytotoxicity induced by SNP. These results suggest that EGT attenuates apoptosis caused by Aβ, preferentially by eliminating peroxynitrite derived from the neurotoxic peptide.

[PC1-3] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Counterion-dye staining method for DNA in agarosegels using indoine blue and methyl orange

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Sensitive and safe method for visualization of DNA in agarose gels using visible dye is described. To improve the sensitivity, we studied a counterion-dye staining method using methyl orange as a counterion-dye which contributes to reduce excessive background staining by indoine blue. Dye concentrations, pH of staining solution, mixing molar ratio of two dyes, and staining times were optimized for the counterion-dye staining. By the staining with a mixed solution of 0.005% indoine blue and 0.00165% methyl orange in 10% ethanol 0.2M sodium acetate, 8 ng of the 3 kb DNA in an agarose gel was detected within 1hr. The detection limit is 2 times lower than that of ethidium bromide.

[PC1-4] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Expression of osteopontin and this role in hepatic stellate cell motility and wound healing migration

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The activation of the hepatic stellate cell (HSC) is a key step in liver fibrogenesis. We investigated the changes of global gene expression during activation in hepatic stellate cells using a rat cDNA microarray with 5,000 sequence-verified clones. We identified osteopontin (OPN), a secreted matrix protein, as one of the upregulated factors. Northern analysis showed OPN mRNA was increasingly expressed during progressive activation of cultured rat HSCs and in models of experimental liver fibrosis. RT-PCR showed this mRNA was increased in human cirrhosis livers compared with normal liver. Incubation of primary HSC with recombinant OPN induced a significant migratory and proliferative effect. Anti-OPN antibody inhibited HSC migration induced by fetal bovine serum in wound healing assays. These findings provide the characterization of OPN expression and of this role in HSC migration, a key event in liver tissue wound healing and fibrogenesis.

[PC1-5] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Time-dependent Degradation of Polyphenol Oxidase in Perilla Fructescens Leaves

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