enhancing effect of GDNF on glioma cell migration may possibly be mediated by activation of MAPKs, especially p38.

[PC1-41] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Effect of porcine testis-derived glycosaminoglycans on blood coagulation and immune responses

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Glycosaminoglycans(PT-Gag) were isolated from the porcine testis. From the PT-Gag, we obtained two different types of Gag fractions using Dowex macroporous Resin MSA-1 column, PT-Gag-1.5% NaCl and PT-Gag-16% NaCl. Various biological activities of the GAGs were examined in aspect of anticoagulant and immunomodulating activity. The anticoagulant activity of the GAGs was evaluated by activated partial thromboplastin time (aPTT) assay and thrombin time (TT) assay. The GAGs of porcine testis markedly increased the clotting times of both of aPTT and TT, showing that PT-Gag-16% NaCl was more effective than PT-Gag-1.5% NaCl. The immunomodulating activity of the GAGs was examined in relation to regulation of cytokine production of murine peritoneal macrophages. Treatment with the GAGs promonently enhanced the production of cytokines, IFN-γand TNF-α. from macrophages. Taken together, GAGs isolated from porcine testis possess biological functions such as anticoagulant and immunomodulating activity.

[PC1-42] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

REGULATION OF BETA-AMYLOID-STIMULATED PROINFLAMMATORY RESPONSES VIA MITOGEN ACTIVATED PROTEIN KINASES AND REDOX SENSITIVE TRANSCRIPTION FACTORS

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Inflammatory as well as oxidative tissue damage has been associated with pathophysiology of Alzheimer's disease (AD), and nonsteroidal anti-inflammatory drugs have been shown to retard the progress of AD. In this study, we have investigated the molecular mechanisms underlying oxidative and inflammatory cell death induced by beta-amyloid (Abeta), a neurotoxic peptide associated with senile plaques formed in the brains of patients with AD, in cultured PC12 cells. PC12 cells treated with Abeta exhibited increased intracellular accumulation of reactive oxygen species and underwent apoptotic death. Abeta caused activation of redox sensitive transcription factors NF-kB and AP-1, which appeared to be mediated via transient induction of MAPKs such as ERK 1/2 and p38. Exposure of PC12 cells to Abeta resulted in time-dependent activation of COX-2 and production of prostaglandin E2. In another experiment, treatment of Abeta led to increased iNOS expression, nitric oxide generation and subsequent peroxynitrite production. Pretreatment with the COX-2 selective inhibitor celecoxib or the peroxynitrite scavenger ergothioneine ameliorated Abeta-induced oxidative cell death. Both SB203580, a widely used p38 MAPK inhibitor and U0126, an inhibitor of MEK1/2 suppressed Abeta-induced cell death through downregulation of COX-2 expression. The above findings suggest that MAPKs and redox sensitive trnascriptional factors play an important role in Abeta-stimulated proinflammatory pathways.

[PC1-43] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Transforming Growth Factor-β (TGF-β) Induces Invasion and Migration of Ras-Transformed MCF10A Human Breast Epithelial Cells

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Transforming growth factor-β (TGF-β), a hormonally active polypeptide found in normal and transformed tissues, regulates cellular growth and phenotyphic plasticity. We have previously shown that H-ras, but not N-ras, induces invasive phenotype in MCF10A human breast epithelial cells. In this study, we wished to examine the effect of TGF-β on H-ras-induced invasion and motility in MCF10A cells by performing *in vitro* invasion assay and wound migration assay. TGF-β significantly induced invasive phenotype of non-invasive parental MCF10A and N-ras MCF10A cells. Since matrix metalloproteinase (MMP)-2 and MMP-9 play critical roles in cellular invasion, we investigated MMP-2 and MMP-9 activities in TGF-β-treated cells. A prominent upregulation of MMP-2 and a slight increase of MMP-9 were detected upon TGF-β treatment, suggesting that TGF-β-induced invasive phenotype may possibly be mediated by MMP-2 rather than MMP-9. TGF-β enhanced migration of H-ras MCF10A and N-ras MCF10A cells in a dose-dependent manner while it did not affect non-transformed MCF10A cell migration. The data suggest that the stimulatory effect of TGF-β on migration is seen only in cells where the ras signaling pathway is activated but not in the parental MCF10A cells. In order to study the molecular mechanisms under which TGF-β enhances cell migration, activation of ras downstream effector molecules by TGF-β is currently being investigated

[PC1-44] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

cDNA cloning of a membrane-associated, magnesium-dependent 30kDa neutral sphingomyelinase

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A major lipid-signaling pathway in mammalian cells implicated the activation of sphingomyelinase (SMase), which hydrolyses sphingomyeline to generate ceramide and phosphocholine. Sphingomyelinase is divided into many isoform groups dependent on optimal pH, and essential cation especially magnesium in their activation. Such as acidic sphingomyelinase, neutral sphingomyelinase and alkaline sphingomyelinase.
Ceramide is known as a crucial second messenger in cell responses like cell proliferation, cell cycle arrest, cellular senescence, and apoptosis. However there are many reports that ceramide activates CAPP (ceramide-activating protein phosphatese), CAPK (ceramide-activating protein kinase) and phospholipaseA2 etc.
In this study, it was confirmed that the 30 kDa protein has the SMase activity. cDNA encoding the 30 kDa protein was cloned using anti-30 kDa protein antiserum. cDNA sequencing analysis of the DNAs showed that the 30 kDa protein is identified as a well-known protein.
For further study, the protein will be expressed in the Eukaryotic cells and the SMase activity will be measured. And the cellular fuction of this protein will be studied using 2-D elctrophoresis and Maldi-tof.

[PC1-45] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Stability of the current biological drugs(typhoid vaccine)

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This paper presents stability of tyhoid vaccine -attenuuated vaccine(oral) and killed vaccine(vi polysaccharide)- 5 classes with various temperature(3 points; iced temperature, refrigeration temp., indoor temp.). Analytical techniques -vi polysaccharide content, pH, sterility, assay - have been used for the quantity of pharmacologically active chemical entries. From this study, we have found the attenuated vaccine is show iced temp. 258% and indoor temp. 0.02% compare with refrigeration temp. in assay examination and the killed vaccine is not found different.

[PC1-46] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

An *In Vitro* Bioassay for Nerve Growth Factor

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