[PA1-30] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

EGF antagonizes TGF-beta 1 induced collagen lattice contraction by human skin fibroblast

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Wound contraction plays an important role in healing, but in the extreme condition, it may lead to excessive scar formation and pathological wound contracture. To date, the key regulator of excessive contracture is known to be TGF-beta 1. In this study, we have evaluated EGF antagonism in fibroblast-populated collagen lattice (FPCL) gel contraction, which has been generally used as one of in vitro model thought to mimic wound contraction in vivo. As expected, TGF-beta 1 treatment enhanced normal fibroblast-induced collagen gel contraction in a dose-dependent manner. In contrast, EGF did not affect normal gel formation, but significantly antagonized TGF-beta 1-induced gel formation ($P < 0.05$ at 100 ng/ml), whereas the other growth factor, PDGF, did not altered both nor normal and TGF-beta 1-induced gel contraction. Similarly, EGF treatment but not PDGF also significantly suppressed TGF-b1 release that is autologously elicited by TGF-beta 1 treatment ($P < 0.01$ at 100 ng/ml). Therefore, the results suggest that EGF may negatively regulate the role of TGF-beta 1, through attenuating autologous release of TGF-beta 1.

[PA1-31] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

The Effect of Hydrogen Peroxide (H2O2) in the Relaxation of Cat Lower Esophagel Sphincter

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It has been shown that the relaxation in cat lower esophageal sphincter (LES) tone by acid-induced inflammation may occur in part because of depletion of Ca^{++} store caused by H_2O_2. This study was performed to investigate the influence of hydrogen peroxide (H_2O_2) on signal pathway in the relaxation of cat LES using organ bath.
Vasoactive intestinal peptide (VIP; 1-100nM) caused dose-dependent relaxation of the resting tone by inducing cyclic AMP-and NO/cyclic GMP-mediated response. Preincubation with H_2O_2 reduced the relaxation induced by VIP. Sodium nitroprusside (SNP), 3-morpholino sydnomine (SIN-1), cGMP analog (8-br cGMP) produced dose-dependent relaxation, which were not attenuated by H_2O_2. The relaxation caused by the adenylate cyclase activator (forskolin), or by the stable cAMP analog (dibutyryl-cAMP) were not reduced or reduced. This might indicate that H_2O_2 leads to a change in receptor-mediated cAMP production. Preincubation with PTX led to attenuation on VIP induced relaxation in cat LES. This result suggests that VIP induced relaxation may be mediated by G_i-dependent pathway. The attenuation by PTX was additive with H_2O_2. These findings suggest that H_2O_2 acts on other pathway rather than G_i-dependent pathway in cat LES.

[PA1-32] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Direct interaction between D3 dopamine receptor and protein disulfide