PC12/PS2w cells. These findings indicate the PC12/PS2m is more sensitive than PC12/PS2w cells in response to apoptotic stimuli, L-glutamate and Aβ stimuli.

[PA1-53] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Btg-1 Induction by Oxidative Stress

Cho IlJe°, Lee SongJin, Kim SangGeon

College of Pharmacy and Research Institute of Pharmaceutical Science, Seoul National University, Seoul, KOREA.

B cell translocation gene-1 (Btg-1), originally discovered from chromosomal translocation in chronic B-cell lymphocytic leukemia, belongs to the APRO family. Btg-1 exhibit antiproliferative function, being expressed during the G_0/G_1 transition phase of cell cycle. Btg-1 is fully expressed in quiescent and differentiated cells, while the protein expression decreases as the cell progresses through the cell cycle. Previous studies from this laboratory have shown that Btg-1 is induced by protein calorie malnutrition, a condition of *in vivo* oxidative stress. In the present study, we investigated the effects of oxidative stress on the activation of Btg-1, the role of Btg-1 in the expression of inflammatory mediators and the responsible signaling pathway(s) in Raw264.7 cells. Btg-1 was induced by sulfur amino acid deprivation and other oxidative stress (i.e. *t*-BHQ, SIN-1 and BSO) in the cells. Btg-1 induction was controlled by the signaling pathways involving PI3-kinase and p70S6 kinase, but not MAP kinases. Confocal microscopic analysis using pEGFP-Btg1, which encodes GFP-Btg-1, revealed that oxidative stress caused cytoplasmic Btg-1 to translocate into the nucleus. Oxidative stress reduced the expression of iNOS in macrophages, Overexpression of Btg-1 also inhibited iNOS induction, suggesting that the induction of Btg-1 by oxidative stress may affect expression of the gene. These results provide evidence that oxidative stress induces Btg-1 in macrophages and leads to the inhibition of iNOS expression. The approaches to the modulation of cell function in association with Btg-1 may allow us to identify the pharmacological targets for immune modulation or therapeutic advantages. (Supported by the fund of Ministry of Welfare and Public Health, 02-PJ1-PG3-21403-0003)

[PA1-54] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Preventive effect of whole bee venom on arthritis and its mechanism: inhibition of COX-2 and iNOS expression through inactivation of $NF-_kB$

Park HyeJi°, Kim SuJin, Kim TaeMyung, Hong JinTae, [1]Ha SeangJong, [1]Song JongYeol, [1]Kim KeeHyun

College of Pharmacy, Chungbuk National University, [1]Department of Oriental Medicine, Graduate School of Kyungwon University

Bee venom (BV) has been utilized to relieve pain and to treat inflammatory diseases such as rheumatoid arthritis (RA). BV contains a variety of different peptides including melittin, apamin, adolapin and mast cell degranulating (MCD) peptide. In addition, it also contains enzyme (i.e. phospholipase A2), biologically active amines and non-peptide components. However, it is likely that a complex stimulation effect of individual components of BV may be responsible for anti-inflammatory effect. Although the treatment of bee venom (BV) has been reported to show an anti-arthritis effect in vivo, the mechanism by which BV-induced anti-arthritis effect has been