

sequences in silico, molecular cloning of the candidate and elucidation of the function were aimed in this study.

Based on the protein sequences of total genes predicted from human genome, prediction of transmembrane domains was performed by TMHMM and genes containing at least two transmembrane domains were selected. These selected genes were then searched if they share similarities with both ankyrin repeats and well-known ion channels by the conserved domain-searching program called HMMER.

As a result, an ion channel candidate gene named ANKTM1, with six transmembrane domains and multiple ankyrin repeat at N-terminal but shares low similarity with TRPV1, was found. Although ANKTM1 is already cloned gene, identification of its role or function as an ion channel has not been followed. Particularly, a mouse homologue of ANKTM1 (AMKTM1-like protein) is a predicted model gene, which is not cloned yet. Therefore, in this study, ANKTM1-like protein was targeted for cloning and characterization as an ion channel. Custom primers for RT-PCR were designed based on predicted model sequences. Successfully, PCR products matching to predicted size were obtained from brain and dorsal root ganglia (DRG). Its sequences were matched to predicted sequence with only slight difference. To identify the function as an assumed ion channel, cRNA of ANKTM1-like protein was injected into *Xenopus* oocyte and expressed. Then, various ligands or stimuli were given on oocyte to check if the putative channel opens or not.

Poster Presentations – Field B2. Pathology

[PB2-1] [04/18/2003 (Fri) 09:30 – 12:30 / Hall P]

Effect of Trolox C in the Vasoregulatory Gene Expression during Hepatic Ischemia/Reperfusion

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The present study was done to determine the effect of trolox C, a hydrophilic analogue of vitamin E, on hepatic injury, especially alteration in vasoregulatory gene expression during ischemia and reperfusion. Rats were subjected to 60 min of hepatic ischemia in vivo. Rats were treated intravenously with trolox C (2.5 mg/kg) or vehicle (PBS, pH 7.4), 5 min before reperfusion. Liver samples were obtained after 5 hr and 24 hr reperfusion for RT-PCR analysis of mRNA for genes of interest: endothelin (ET-1), potent vasoconstrictor peptide, its receptor ET_A and ET_B, vasodilators endothelial nitric oxide synthase (eNOS), inducible nitric oxide synthase (iNOS), heme oxygenase-1 (HO-1), and cyclooxygenase-2 (COX-2). Serum alanine aminotransferase and lipid peroxidation levels were markedly increased after ischemia and reperfusion. This increase was significantly suppressed by trolox C. mRNA levels for ET-1 significantly increased after ischemia and reperfusion. This increase was markedly attenuated by Trolox C. ET_B expression significantly increased in ischemic animals, with no significant difference between vehicle and trolox C group. HO-1 was increased by ischemia and reperfusion. The increase in HO-1 was prevented by trolox C 5 hr after reperfusion. Our findings suggest that ischemia and reperfusion induces imbalanced hepatic vasoregulatory gene expression and trolox C ameliorates this change through its free radical scavenging activity.

[PB2-2] [04/18/2003 (Fri) 09:30 – 12:30 / Hall P]