restriction had no effect on it. The fas protein level increased in 24 months of age more than 2 times, and dietary restriction had no effect on it. The active form of caspase-3 did not increased with aging but the proform of it was increased 3 times more than that of 6 month. And the increase was modulated in dietary restriction group. According to the above results, the increse of apoptotic cell death in rat testis cells is p53 and p21 dependent and fas protein will be related to the apoptotic death. It should be more investigated to confirm that dietary restriction has some effects on it.

[PC1-18] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Expression of HIF-1 inducible genes in the aged rat liver

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Some ROS have been suggested to play important roles as a second messenger in normal and diseases conditions. Recent findings on hypoxia established the induction of a DNA binding protein synthesis called hypoxia inducible factor-1 (HIF-1), which promotes transcription of multiple genes. HIF-1 plays a major role in adaptive responses essential to hypoxia as the case in angiogenesis to maintain O_2 homeostasis. HIF-1 has also been shown to activate transcription of genes encoding inducible nitric oxide synthase (iNOS) and heme oxygenase 1 (HO-1) which are important for the regulation of blood flow by synthesizing NO and CO, respectively. At present, there is no information on the HIF-1 inducible genes expression and DNA binding activity in aged tissues. We investigated expression of HIF-1 inducible genes in liver isolated from Fischer 344 rats at 6, 12, 18, and 24 months of age. We quantified the age-related changes in four genes, vascular endothelial growth factor (VEGF), HO-1, iNOS, and HIF-1a in rat whole liver. Quantitation of DNA binding activity was carried out by EMSA. Results showed that the protein levels of VEGF, HO-1, iNOS, and HIF-1a were increased with age. These changes are attributed to the age-related increase in HIF-1 DNA binding activity. Significances of our findings are the hypoxic induction of HIF-1 inducible genes may be critical factors in the maintenance of cerebral O_2 homeostasis and angiogenesis during aging. Our results warrant further investigation on molecular mechanisms underpinning hepatic aging and blood circulation under hypoxic conditions occurring during aging.

[PC1-19] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Effects of bisphenol A and 4-nonylphenol for development of cultured mammary gland

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The prevalence of synthetic chemicals in our environment that capable of mimicking the female hormone estrogen is a growing concern. One such chemical, bisphenol-A (BPA), has been shown to leach from a variety of resin-based and plastic products, including dental sealants food and beverage containers, in concentrations that are sufficient to induce cell proliferation in vitro. In order to development, mouses on mammary determine if above endocrine disruptors (EDs) affect lobulo-alveolar development, and to determne if whole organ culture of mouse mammary glands is an appropriate model of estrogen effecs on mammary development, mouse mammary glands were cultured in the presence or absence of EDs.
Test chemicals selected for these studies included 17beta-estradiol, 4-nonylphenol and BPA. We also performed RT-PCR method. The RNA was prepared from mouse mammary tissues. These results

demonstrate that BPA induces changes in the mouse mammary gland development that differ depending on the exposure dose.

[PC1-20] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Human cord blood derived mast cells cultured with rhSCF in serum deprived culture medium, AIM-V, undergo exocytosis in response to polycationic non-immunological compounds

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Mast cells have been regarded as one of the most important effector cells in IgE-dependent allergic response. There are at least two distinct population of rodent mast cells. One is connective mast cells (CTMC) and the other is mucosal mast cells (MMC). One of the phenotypic differences of these two population is the responsibility to polycationic non- immunological compounds, such as compound 48/80 and substance P. These compounds stimulate CTMC but not MMC. Coculture of mouse bone marrow derived mast cells (BMMC) with 3T3 fibroblasts in the presence of the stromal cytokine, c-kit ligand (KL) result in morphological and functional development toward a more mature CTMC-like phenotype. On the other hand, human mast cells are divided into two phenotype by their protease expression. One is MCT which express tryptase but not chymase and the other is MCTC which express tryptase and chymase. Human skin mast cells response to polycationic non-immunological compounds and their phenotype is MCTC. It is well known that human cord blood derived mast cells (CBMC) which culture with rhSCF in serum containing media are the phenotypic mixture of MCT and MCTC but they are not activated by polycationic non-immunological compounds.
We cultured the cord blood mononuclear cells for 10 weeks with rhSCF in serum deprived media. These CBMC were MCT/MCTC phenotype as cultured in serum containing media. But they aquired the reactivity to the polycationic non-immunological compounds, such as human skin mast cells. CBMC that cultured with serum deprived media did not change their responsibility to the polycationic non-immunological compounds by coculture with human skin fibroblast, SK1059. But, in the presense of rhIL-6, these CBMC were developed toward a more mature human skin mast cell-like phenotype.

Poster Presentations - Field C2. Microbiology

[PC2-1] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Alcohol Dehydrogenase Inhibitors contained in Natural Products

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Alcohol dehydrogenase(ADH) is the first main system of alcohol metabolism. The increase of the aldehyde produced by ADH may cause serious adverse effects on the liver. Therefore, using alcohol dehydrogenase inhibitors could result in beneficial pharmacological effects such as antialcohol abuse,