

known about these effects of GBE and its major flavonoids (quercetin, kaempferol and isorhamnetin). In order to evaluate action of GBE and its major components as chemopreventive agents in breast cancer, we measured the effects of these compounds on estrogen synthesis (aromatase activity) and metabolism. The aromatase activity was determined by measuring the [3H] H₂O released upon the conversion of [1 β -3H] androstenedion to estrone in JEG-3, human choriocarcinoma cell. E2 metabolism was investigated using the radiometric analysis in MCF-7 human breast cancer cell. In these results, GBE and its major metabolites inhibited aromatase activity and stimulated E2 metabolism. Consequently, these results demonstrated that down regulation of E2 level by these compounds may be the important role that prevents breast cancer.

[PA3-12] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Studies on the protective effect of Cheju and Brazil pectin on the male reproductive system damaged by 2,3,7,8-tetrachlorodibenzo-P-dioxin

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The adverse health effects on humans and domestic and wildlife species by exposing to environmental contaminants, which interact with the endocrine system, have been treated as an important issue without hesitation throughout the 1990s. The chemicals with practical and/or potential interfering actions with the endocrine system functions are called endocrine disrupting chemicals (EDCs). Amongst these chemicals, 2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD) have been linked to unwanted consequences in endocrine function particularly when the exposure occurs during the development period in animal models. In humans, the consequences of prenatal exposure to TCDD on the reproductive tract of both females and males have been identified and developmental neurological problems of TCDD in children are well known. Furthermore, many articles indicating declines in the quality and quantity of sperm production in humans over the last four decades, and increases in certain endocrine-related cancers have given speculation about environmental etiologies and development of protective agents against EDCs.

With all these reasons, this study focused on investigating the protective effects of pectin, Cheju and Brazil mandarin extract, on 2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD) induced male reproductive system damages, such as reduction of sperm motility, organ (seminal vesicle, prostate, testis) to body weight index in animal model by performing Hershberger assay. The results of this investigation suggested that the pectins extracted both from Cheju and Brazil mandarin peel showed similar protective effects giving possibility of developing as functional food.

[PA3-13] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Levels of organochlorine pesticides and PCB congeners in Korean human tissues

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Organochlorine pesticides and polychlorinated biphenyls (PCBs) have been used intensively in agriculture and industry for a long time. They belong to a group of contaminants whose occurrence in the environment is a serious concern to environmental chemists and toxicologists due to their resistance to degradation in the environment as well as their potential toxicity. Also, the lipophilic characteristics of these substances are responsible for their ability to bioaccumulate in tissues and organs rich in lipids of men and animals through food chain. Therefore, the measure of the levels of organochlorine pesticides and PCBs in human tissues are good markers in determining the extent of exposure and evaluating the hazards. This study was performed to compare concentrations of organochlorine pesticides (α -BHC, β -BHC, γ -BHC, δ -BHC, p,p'-DDT, p,p'-DDD, p,p'-DDE, endrin, dieldrin, aldrin) and seven marker PCBs (PCB nos. 28, 52, 101, 118, 138, 153, 180) in liver, kidney cortex, lung blood and adipose tissue collected at autopsies of 10 men and 10 women using gas chromatography equipped with electron capture detector to express the data on a lipid adjusted basis. From the results, the significant differences in the levels of organochlorines or PCBs between sexes, districts where they had lived and ages were also investigated.