been screening natural products having inhibitory activity of sterol biosynthesis by a simple and rapid assay method using recombinant yeast carrying rat lanosterol synthase. This time we developed an assay system using human lanosterol synthase(hLS) and screened natural products for the inhibitory activity of sterol biosynthesis.
Originally recombinant yeast having GAL1 promotor were cloned for the expression of hLS using yeast expression vector, pYES2. For the construction of transformed yeast having GPD promotor, Spe 1 site in cloning site of pYES2 vector was disrupted(pYES2△S) and GPD promotor was amplified by PCR from yeast genomic DNA. These two plasmids were digested with Spe 1 and Hind III, ligated and propagated to get yeast expression vector having GPD promotor, pYES2G1. hLS gene was transfered from pYES2h(GAL 1 promotor) to pYES2G1(GPD promotor) to get expression vector having GPD promotor and hLS ORF, pYES2G1h. Transformed yeast, pYES2G1h/GIL77, was cloned with pYES2G1h and mutant yeast strain, GIL77, lacking LS. With this transformed yeast, the assay method for inhibition of sterol biosynthesis was established by measuring only the yeast growth.
With this assay method, 81 kinds of plant water extract were screened in the medium with ergosterol or without ergosterol. The assay method and screening results will be discussed.

[PD2-34] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Evaluation of natural products on inhibition of cyclooxygenase -2, inducible nitric oxide synthase activities and cytotoxic potential

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In order to discover novel lead compounds for antiinflammatory and cancer chemopreventive agents, methanolic extracts of approximately 170 oriental herbal medicines were prepared and primarily evaluated for inhibition of lipopolysaccharide (LPS)-induced cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS) activities in cultured RAW 264.7 macrophages. As a result, Curcuma zedoaria, Rehmania glutinosa, Pterocarpus santalius, Cinnamomum cassia, Aristolochia debilis and Rhus verniciflua showed potent inhibition of COX-2 and iNOS activities. Turmerones isolated from C. zedoaria were active principles in this capacity. In addition, Paeonia moutan, Rheum coreanum, Rhus verniciflua, Eugenia caryophyllata were active leads for antioxidant activity determined by 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging activity, and inhibition of xanthine oxidase (XOD) activity. Several extracts including Cynanchum paniculatum showed cytotoxic activity in cultured human lung and colon cancer cells. Active principles for Cynanchum paniculatum are under investigation.

[PD2-35] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Inhibitory Effects of Tannin Compounds on Dopa Oxidase Activity of Tyrosinase

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It has reported that tannin compounds have various biological activity like an enzyme inhibitory effect, anti-bacteria, anti-virus and anti-oxidative effect. And Some inhibitory effects of tannin compounds on Dopa Oxidase activity of Tyrosinase were also reported.
For the utilizing of tannins in the whitening-effect cosmetics, inhibition effect against tyrosinase of tannins was determined. Gallocatechin, gallocatechin 3', 4'-O-gallate, epicatechin 3-O-gallate, 1,2,6-tri-galloyl-β-D-glucose, 2,3-(s)-HHDP-D-glucose, pedunculagin showed moderate(20~40%) inhibitory effect against tyrosinase.