(vitamin C) and reduced glutathione (GSH). Quercetin were used 12,5, 25, 50, 100mM concentration. From this result The antioxidant enzyme activity of quercetin in the presence of vitamin E was stronger than GSH or vitamin C, in addition, the same treatments decreased intracellular reactive oxygen intermediate levels in B16F10 melanoma cells. Taken together, these result demonstrate that the antioxidant effect of quercetin can enhance in the presence of different antioxidant and it might play an important role in anti-tumor effect.

[PC2-1] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Expression and Characterization of ATP-binding-cassette(ABC) Transporter in Cephabacin Biosynthesis Gene Cluster of Lysobacter lactamgenus

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In order to confirm the biological function of ORF10 in cephabacin biosynthesis gene cluster of Lysobacter lactamgenus as an ATP-binding-cassette (ABC) transporter, the gene for ORF10 was amplified and subcloned into pET-28a(+) expression vector. After gene induction with 0.5 mM IPTG at 30˜ ! and further cultivation at 30˜ !. for 8 hr, a lot of the recombinant ORF10 protein was produced as soluble form in cytoplasmic fraction as well as a membrane protein in the membrane fraction as likely as other ABC transporters. The membrane fraction of recombinant E. coli cells was separated by ultracentrifugation, and solubilized using 2.5% octyl-?-D-glucoside. The ORF10 protein was then purified from the solubilized membrane proteins through nickel affinity column chromatography. Because enough amount of ORF10 as a pure form was not obtained, the comparative analysis of biological activity was next done using membrane proteins of recombinant E. coli cells and host cells. For the accurate analysis, the artificial liposomes were reconstituted by octyl-?-D-glucoside dilution method. The generated liposomes about 2 ? were tested for ATPase activity and substrate specificity. The artificial liposome made from recombinant E. coli membrane proteins showed slightly higher activity than that from host E. coli membrane proteins. In the measurement of membrane transport activity, the reconstituted liposome of recombinant E. coli membrane proteins exhibited a significantly high activity on cephalosporin C, a part of cephem nucleus of cephabacin, but not on Ala-Ser, an oligopeptide side chain of cephabacin. Further, slightly higher activity was observed in this liposome when both substrates of cephalosporin C and Ala-Ser were treated than when cephalosporin C alone.

[PC2-2] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Cytotoxicity of Compound K and Ginsenoside R_{h2} against some tumor cells

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When ginsenoside R_{b1} and R_{b2} were anaerobically incubated with human fecal microflora, these ginsenosides were metabolized to compound K. When ginsenoside R_{g3} was anaerobically incubated with human fecal microflora, the ginsenoside R_{g3} was metabolized it to ginsenoside R_{h2}. Among ginsenosides, compound K and 20(S)-ginsenoside R_{h2} exhibited the most potent cyotoxicity against tumor cells: 50% cytotoxic concentrations of compound K in the media with and without fetal bovine serum (FBS) were 27.1 - 31.6 mM and0.1 - 0.6 mM, and those of 20(S)-ginsenoside R_{h2} were 37.5 - > 50 and 0.7 - 7.1 mM mM, respectively. The cytotoxic potency of ginsenosides was compound K > 20(S)-ginsenoside R_{h2} >> 20(S)-ginsenoside R_{g3} > ginsenoside R_{b1} @ R_{b2}.

[PC2-3] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Search for acetaldehyde trapping agents by using alcohol dehydrogenase assay

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