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In an attempt to provide useful information on the development of an artificial nerve tubing, proliferative and migrative properties of two glioma cell lines, C6 rat glioma cells and Hs683 human glioma cells, were examined. The present study shows that C6 cells proliferated more rapidly than Hs683 cells. The Hs683 cells are more adequate for the development of nerve tubing since unlike C6 cells, they are of human origin and known to be non-tumorigenic. In order to enhance proliferative and migrative abilities of Hs683 cells for the application as an artificial nerve tubing, we studied the effect of glial cell-derived neurotrophic factor (GDNF) on C6 and Hs683 cells. GDNF increased proliferation and migration of Hs683 cells in a dose-dependent manner. As an approach to develop artificial nerve tubing, we wished to determine if GDNF stimulate proliferation of glioma cells in the scaffolds. Cells were seeded in the scaffolds (polymer constructs), fabricated with type I collagen and alginate modified with cinnamoyl moiety, in the presence or absence of GDNF. Compared to control, cell proliferation was greatly enhanced by GDNF treatment of scaffolds as evidenced by staining of the cells in paraffin block. We then tested cytotoxicity of scaffolds used in this study. Hs683 cell growth was not inhibited by scaffold, proving that scaffold is not cytotoxic. Taken together, we show that GDNF treatment of scaffolds effectively increased Hs683 cell proliferation, suggesting a possible use of GDNF for developing artificial nerve tubing.

Poster Presentations – Field C2. Microbiology

[PC2-1] [04/18/2002 (Thr) 14:00 – 17:00 / Hall E]

Isolation, Identification and Characterization of vancomycin-resistant *Streptococcus equinus* from raw milk sample

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To determine the occurrence of vancomycin-resistant *Enterococcus* and *Streptococcus* in raw milk samples, we examined raw milk samples for three month. Resistant strains were isolated directly from *Enterococcal* selective agar plates supplemented with 2mg of vancomycin per liter. 6 strains having high resistance were isolated. 5 of six were identified as *Streptococcus equinus* and 1 of 6 was identified as *Enterococcus faecium*.

To determined resistance, 6 isolates were tested with vancomycin and teicoplanin. Vancomycin resistant were genotyped by PCR analysis and *Enterococcus faecium* was VanC type

[PC2-2] [04/18/2002 (Thr) 14:00 – 17:00 / Hall E]

Antihyperlipidemic Effect of *Alpinia officinarum*

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The inhibition of lipase improves the condition of hyperlipidemia, obesity, hypertension, atherosclerosis and many other cardiovascular diseases. Therefore, the objective of this study was to investigate antihyperlipidemic effects of functional food ingredients.

Cinnamomum cassia, *Rheum palmatum*, *Alpinia officinarum* and *Chrysanthemum indicum* were selected as the the potent lipase inhibitor in vitro. However, *Cinnamomum cassia*, *Rheum palmatum* and *Chrysanthemum indicum* showed no significant antihyperlipidemic activity in high cholesterol diet induced hyperlipidemic mice. However, *Alpinia officinarum* improved serum TG, HDL and LDL level in corn oil