was incubated with human plasma and the adsorbed serum proteins on the surface of liposomes were applied to the SDS-PAGE. In vitro cytotoxicity of camptothecin derivative encapsulated in PEGylated liposome was carried out in human cervical cancer cell line (HeLa). Camptothecin derivative in PEGylated liposome was found to be 20-fold more effective (IC50=2.5nM) than free camptothecin derivative (IC50=50nM) for growth inhibition of HeLa cells in vitro.

[PE1-3] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Evaluation of poly-L-lysine-g-pluronic copolymer as a gene transfer agent

Jeon EJ°, Kim JS

College of Pharmacy, Sookmyung Women's University

Genes are attractive candidates as therapeutic agents, and the development of gene carriers is essential for human gene therapy.
In order to investigate the delivery of DNA into cells, poly-L-lysine-g-pluronic copolymer was synthesized by conjugating free amino group of poly-L-lysine and pluronic partially functionalized with 4-nitrophenyl carbonate groups.
The new graft copolymers were characterized by FT-IR, 1H-NMR, UV spectroscopy. 1H-NMR spectrum of copolymer shows peaks at δ=1.13ppm, 1.37~1.6ppm, 3.0ppm, 3.5ppm, 3.66ppm which can be assigned to reaction poly-L-lysine and pluronic. The reaction between activated pluronic and poly-L-lysine results in a loss of 4-nitorophenoxy groups and a corresponding decrease in absorbance at 274nm, which can be monitored spectorphotometrically.
Gel retardation assay and EtBr assay confirmed that the new gene carriers make a compact complex with plasmid DNA.
pCMVβ-gal and pGL3 plasmid were used as repoter genes, and in vitro gene trnasfection efficiency was measured in HeLa cell by using X-gal assay and luciferase assay, respectively.
The highest transfection efficiency was achieved at a 1:1 weight ratio of polymer:DNA.

[PE1-4] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Iontophoretic transport of GHRP-6

Choi BK°, Oh SY

College of Pharmacy, Sookmyung Women's University

The purpose of this study is to characterize the iontophoretic transport of growth hormone releasing peptides (GHRP-6) through hairless mouse skin from aqueous solution. The effect of various factors, such as pH, poloarity, current profile, current density, current duration, ionic strength, drug concentration, and enhancer application were studied to obtain basic knowledge on the transport. We have also studied the stability of GHRP-6 in solution with/without current. The donor chamber was filled with phosphate buffer solution containing GHRP-6 and the receptor chamber was filled with phosphate buffer solution (pH 7.4). Ag/AgCl electrode was used for their stability and reversibility. At a predetermined time interval, sampling was made and the concentration of drug was analysed using HPLC system. The results showed that, compared to passive flux, the total amount of drug transported increased about 7 folds by the application of 0.4 mA/㎠ anodal current. Cathodal flux was similar to passive flux. Flux increased with the current density, the duration of current application and loading amount. The effect of enhancers on the flux was studied using hydrophilic (5% N-methyl pyrrolidone) and hydrophobic (5% propylene glycol monolaurate, 5% oleic acid) enhancers. Application of enhancer also increased the flux.