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Among the promising cancer therapy is targeting of the drug to tumor cells via receptor specific ligands. CR2945, β-[2-([2-(8-azaspiro[4.5] dec-8-ylcarbonyl)-4,6-dimethylphenyl]amino-2-oxoethyl]-(R)-1-naphthalenepropanoic acid, is known to have an inhibitory effect on a gastrin receptor of colorectal cancer cells. As the human pancreatic cancer cells (BxPC-3) express gastrin receptors, interruption of binding of gastrin with gastrin receptor of human pancreatic cancer cells by CR2945 inhibits the growth of human pancreatic cancer cells. The purpose of this study is to synergistically inhibit the growth of pancreatic cancer cells by CR2945-conjugated liposome encapsulating anticancer DNA. Conjugation of CR2945 with phospholipid(DSPE) was performed by the reaction of a carboxyl group in CR2945 with an amine group introduced into DSPE. The structural analysis of DSPE-CR2945 was carried out using FT-IR, 1H-NMR, and UV spectroscopy. The IR spectra of DSPE-CR2945 with peptide bond exhibit the characteristic bond of primary amine group at 3223cm^{-1}. The 1H-NMR spectrum of the same modified polymers shows peak at δ=8.830 which can be assigned to protons of the peptide bond. Naphthalene group of DSPE-CR2945 appears at δ=7.437~δ=7.297. The results of IR spectra and 1H-NMR spectrum show that a carboxyl group in CR2945 conjugated to an amine group in DSPE. CR2945 seems to target human pancreatic cancer cells and results from in vitro growth inhibitory study will also be presented.

[PE1-24] [10/18/2002 (Fri) 13:30 - 16:30 / Hall C]

Characterization of the rhGH released from rhGH-loaded PLGA microspheres

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The in vitro release of rhGH from PLGA microspheres was characterized. rhGH-loaded PLGA microspheres were prepared with 50:50 poly(D,L-lactide-co-glycolide) (PLGA) polymers using a double emulsion process. To simulate rhGH release under physiological conditions, the microspheres were suspended in a physiological buffer at 37℃. Quantification of the rhGH released and its molecular form analysis were carried out using SE-HPLC. Approximately 15% of the encapsulated rhGH was released within the first day, with a continuous release occurring during the following days. 95.1% of rhGH released during the first day was in the monomeric form. The monomer ratios at day 5 and day 8 were 99.4% and 98.6% respectively. At day 11 and day 14, rhGH was observed exclusively in the monomeric form. And rhGH released from microspheres was verified to be essentially in the biologically active form.
The results suggest that dimers and aggregates formed during the manufacturing process were located mostly at the surface of the microspheres and released during the early stage of release. In contrast, the rhGH in the interior of the microspheres is hypothesized to be mainly in the monomeric form, resulting in an increased monomer ratio during the mid- and late phase release.

[PE1-25] [10/18/2002 (Fri) 13:30 - 16:30 / Hall C]

Effects of Sustained-Release Formulation of Recombinant Human Growth Hormone on Body weight, Bone growth and Organs in Hypophysectomized Rats

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The rhGH-loaded PLGA microsphere formulation was prepared using a double emulsion process from hydrophilic 50:50 poly(D,L-lactide-co-glycolide) (PLGA) polymers. To investigate the sustained efficacy of this formulation, its pharmacodynamic characteristics were analyzed. It showed particle size of ca 53.1μm with high drug incorporation efficiency and it was subcutaneously administrated to hypophysectomized rats and whole body growth responses of this formulation were compared to those of the different dosing patterns of rhGH. Statistically significant increases were noted in body weight, growth plate(bone growth) and thymus size without affecting the size of other organs after 7 days at which formation of antibodies to rhGH was observed. These studies suggested that rhGH delivered continuously via these formulations showed the same efficacy on increasing body weight and bone growth as rhGH delivered via twice daily injection or osmotic minipump in

hypophysectomized rats and the pattern of its efficacy(body weight gain and growth plate width) was dose-dependent.

[PE1-26] [10/18/2002 (Fri) 13:30 - 16:30 / Hall C]

Preparation of mono-PEGylated interferon alpha-2a and its properties

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Recombinant interferon alpha is widely used for the treatment of diseases including chronic hepatitis C. However, it has drawbacks such as relatively short serum half-life and rapid clearance like other therapeutic proteins. Using PEGylation which is one of the well-established methods to fulfill the requirements of a long-lasting form of protein, we prepared mono-PEG modified interferon alpha-2a in which polyethylene glycol moiety was covalently attached to the amino groups of interferon alpha-2a. Monopegylated interferon alpha-2a was purified from conjugation reaction mixture employing only one chromatography step. The purity was over 95% by SDS-PAGE and high performance liquid chromatography. Physicochemical and biological characterization on pegylated interferon alpha-2a was also performed. N-terminal amino acid sequencing, analysis on the amino acid composition and circular dichroism spectrometry indicated that pegylated interferon alpha maintained the same primary and secondary structure as the unmodified interferon alpha protein. We also identified that it showed the intrinsic antiviral activity of interferon alpha by cytopathic effect (CPE) assay.

[PE1-27] [10/18/2002 (Fri) 13:30 - 16:30 / Hall C]

A comparative study of pharmacopoeia between South Korea and North Korea(I)

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With the Sunshine policy, exchange of goods and cultures inter Koreas is broaden and expectancy of reunification is getting higher.
Especially, medical supplies and medicines is one of the biggest parts in the exchanges.
So, need for preparing new medical administration system for reunification is needed.
We are going to compare inter Koreas drug administration system in medical services.
In this year, we started with the comparing pharmacopoeia between South and North Korea. Two pharmacopoeias have been developed in different direction and have many differences in the nomenclature and structure of that.
In this thesis, we compared General notices, General rules for preparations and crude drugs, Monographs, General tests, Processes & Apparatus.

Poster Presentations - Field E2. Pharmacokinetics

[PE2-1] [10/18/2002 (Fri) 13:30 - 16:30 / Hall C]

Determination of enalapril in human blood by high-performance liquid chromatography mass