## Mechanistic studies on peptide conjugate formation from GHRP-6 and PLGA polymer

Kim JungSoo, Lee JiSuk°, Choi SungJin, Kim SangBeom, Lee Heeyong, Kim SunYoung, Choi Holl, Lee KangChoon, Lee HyeSuk

MRRC and College of Pharmacy, Wonkwang University, Peptron Inc., College of Pharmacy, Sungkyunkwan University

We previously reported that peptide conjugates were formed during in vitro release test of growth hormone releasing peptide-6 (GHRP-6, His-DTrp-Ala-Trp-DPhe-Lys-NH2) containing PLGA microspheres. LC/MS/MS analysis had confirmed that glycolic and lactic acids originated from PLGA polymer were conjugated to the free amino group of N-terminal His and epsilon amino group of Lys5 of GHPR-6. In this presentation, we studied the reaction mechanism of the conjugation formation more systemically by incubating GHRP-6 and a hydrophilic 50:50 PLGA polymer (RG502H, Boehringer Ingelheim) in various conditions. Two critical physico-chemical phenomena between GHRP-6 and PLGA polymer were determined as peptide binding to the polymer and glycolic/lactic acids conjugation to the peptide. From various experimental evidences including higher conjugate formation at alkaline pH, aminolysis of PLGA catalyzed by amino group of GHRP-6 is suggested as a plausible reaction mechanism.

[PE1-2] [ 10/19/2001 (Fri) 09:00 - 12:00 / Hall D ]

## Prediction method on the effect of transdermal enhancer II: Modeling by Artificial Neural Network-Partial Least Squares Regression

Cho JungHwan°, Oh Seaung Youl, Kim JungJu

College of Pharmacy, Sookmyung Womens University, Pacific Corporation

The final goal of this work is to develope a proper regression model for the prediction of the effect of various enhancers on the transdermal flux. In order to carry out this task, flux data were obtained under homogeneous experimental condition. The effect of enhancers (2 hydrophobic and 2 hydrophilic) on the flux of model compounds (antipyrene, atropine, benzoic acid, chloraminophenamide, nicotinic acid) were studied.
Molecular descriptors of enhancers and model compounds were related with flux data of enhancer-drug combinations. Flux data were preprocessed in several different ways prior to regression analysis. Several regression models such as multiple linear regression(MLR), principal component regression (PCR), partial least squres regression(PLSR), continuum regression(CR), artificial neural network with non-linear transfer functions, and ANN-PLSR were tested and compared. The best prediction so far was obtained with ANN-PLSR(Artificial Neural Network-Partial Least Squares Regression).

Acknowledgement: This work is supported by the grant from Pacific Corporation.

[PE1-3] [ 10/19/2001 (Fri) 09:00 - 12:00 / Hall D ]

## Solubilization of an anesthetic drug in nonionic surfactant systems

Ryoo HyunKi°, Hong JiWoong, Chi SangCheol, Park EunSeok

성균관대학교 약학대학