

Biocompatible L-tyrosine polyurethane double emulsion nanoparticles for gene delivery

*Ildoo Chung¹⁾ and Soo-Yong Park²⁾

^{1), 2)} Department of Polymer Engineering, Pusan National University, Busan 46241, Korea

¹⁾ idchung@pusan.ac.kr

ABSTRACT

In this study, gene carrier nanoparticles with minimal toxicity and high transfection efficiency were fabricated from biodegradable polymer (L-tyrosine polyurethane, LTU), which was pre-synthesized from desaminotyrosyl tyrosine hexyl ester (DTH), and polyethylene glycol (PEG) and used to evaluate their potential biological activities molecular controlled release and transfection studies. In order to evaluate cellular uptake and transfection studies, we prepared fluorescently labeled bovine serum albumin (FITC-BSA) to investigate cellular uptake and DNA-linear polyethylenimine (LPEI) complex to investigate the transfection efficiency in LX2, HepG2, MCF7 cells.

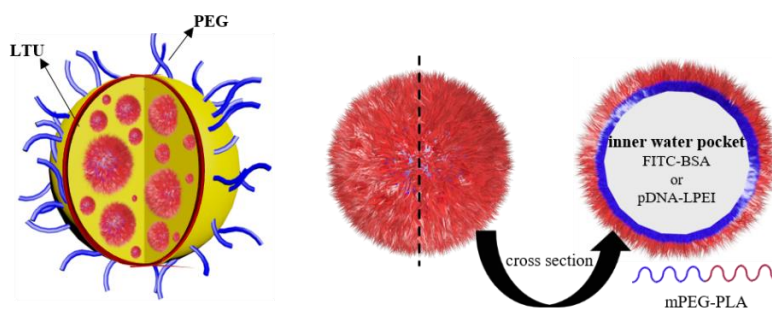


Fig. 1 Double emulsion LTU nanoparticles

REFERENCES

Shah, P.N., Lopina, S.T. and Yun, Y.H. (2009), "Blends of novel L-tyrosine-based polyurethanes and polyphosphate for potential biomedical applications", *J. Appl. Polym. Sci.*, **114**(5), 3235-3247.

¹⁾ Professor

²⁾ Graduate Student