Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Nanoporous membrane based on block copolymer thin film for protein drug delivery SEUNG YUN YANG, Pohang University of Science and Technology, JEONG-A YANG, EUNG-SAM KIM, GUMHYE JEON, EUN JU OH, KWAN YONG CHOI, SEI KWANG HAHN, JIN KON KIM — We studied long term and controlled release of protein drugs by using nanoporous membranes with various pore sizes. Nanoporous membrane consists of the separation layer prepared by polystyrene-block-poly(methylmethacrylate) copolymer thin film and conventional microfiltration membrane as a support. We demonstrate a long-term constant in vitro release of bovine serum albumin (BSA)and human growth hormone) (hGH) without their denaturation up to 2 months. A nearly constant serum concentration of hGH was maintained up to 3 weeks in SD rats. The long-term constant delivery based on this membrane for protein drugs within the therapeutic range can be highly appreciated for the patients with hormone- deficiency.

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Date submitted: 18 Nov 2009 Electronic form version 1.4