

MRSEC SEMINAR SERIES

“Nano-Structured Cell Culture Substrates for Proliferation and Differentiation.”



Proliferation and differentiation have been one of primary research areas in the stem cell science and technology due to not only huge implication in basic science but also significance in medicine. There have been many approaches and materials employed for the effective manipulation of properties related to proliferation and differentiation of stem cells. In my presentation, applications of thin, homogeneous and patterned films made with nanomaterials including silicon oxides and carbon nanotubes for the cell culture substrate will be demonstrated. By precisely controlling the morphology of the cell culture substrate for inducing cell adhesion and cell-to-cell interaction, differentiation was effectively controlled, and proliferation of the stem cell was promoted effectively. Due to

enabling the formation of micro-meter scale patterns with intact surface modification of the nanomaterials, further controlling of proliferation and differentiation were possible. By demonstration of possible patterns and manipulation of the surface of the cell culture substrates, I hope to initiate new collaborative research opportunities between Northwestern University and Ajou University in the stem cell area.

Jae-Ho Kim, Ph.D.

Professor, Department of Molecular Science and Technology
Vice President for Research Affairs
Ajou University, Korea

Wednesday, February 5, 2014

Cook 2058

4:00 – 5:00 p.m.

NU-MRSEC

mrc@northwestern.edu - 847.491.3606

