

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Substrate Stiffness Detection by Cellular Stress and Strain

SHANG-YOU TEE, PAUL JANMEY, University of Pennsylvania — Cells can detect the stiffness of their microenvironment and use this elasticity information to perform cellular functions. We grow cells in hydrogels of different stiffnesses. We embed particles in the hydrogels and measure the traction forces exerted on the hydrogel by tracking particle motions. We correlate these motions to protein dynamics and deduce the stress-strain relationship that cells use to measure elasticity.

Shang-You Tee
University of Pennsylvania

Date submitted: 05 Dec 2007

Electronic form version 1.4