Massachusetts Institute of Technology
Harvard-MIT Division of Health Sciences and Technology and
Department of Electrical Engineering and Computer Science

HST.410J/6.07J

Homework Assignment #5

Issued: March 15, 2007
Due: April 5, 2007

Determine whether volume change of a cell depends on the isotonic volume.

In today's and next Tuesday's lab you will be trapping individual cells in a microfluidic device. Once the cells are trapped, you can change the perfusates to expose the cells to a variety of solutions. You can then measure the volume change of the cells in each solution. For example, you can dilute PBS with DI water to measure swelling as a function of ionic strength (swelling should increase as ionic strength is lowered). Your homework assignment is to compare individual cells to determine whether the volume change in these various solutions depends on the initial (isotonic) volume of the cell. Write a short report (three pages plus supporting images and graphs) to document your findings.