

Selecting Multiple Objects

If any investigation has more than one study and more than one assay, you can select which ones you want to filter by clicking the **Select Multiple Objects** box.

For example, the following investigation has many studies and assays, so it displays horizontally with a slider on the side to move up and down. It also has zoom out and zoom in buttons to see more or fewer objects.

Physical Properties of Cancer Cells: Cell Mechanics and Force Generation in Physiologically Realistic Environments

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zoom in (+)

zoom out (-)

Information

Identifier:

cssi_i0002

Description:

Project employed optical and atomic force microscopies, rheological methods, and morphometric analyses to quantify 10 different physical properties of 29 cancer cell lines that are hypothesized to be relevant to their pathophysiological functions. These quantities were measured using substrates that differ in physical properties, including hydrogel substrates with elastic moduli similar to those of the tissue types represented by the chosen cell lines to represent the in vivo physical environment. Other key elements of the study include: use of two different extracellular matrix elements, fibronectin and collagen 1, that have distinctly different effects on cells' physical properties, and hydrogel substrates comprised of hyaluronan, a matrix component often upregulated in cancer. The purpose and anticipated end result was to determine physical parameters using biophysical methods and expertise. All parameters measured are properties that have been hypothesized to be perturbed in cancer cells or in the stroma around them that contribute to the development and progression of cancer. These include: (1) Young's modulus -- surface stiffness as measured by atomic force microscopy, (2) Volume -- as measured by high resolution confocal microscopy, (3) Motility -- as assessed by measurement of average speed and end-to-end distance traveled by cells in a period between 24 hours and 28 hours after initial adherence to their substrates, (4) Adherent area, (5) Circularity, (6) Axial ratio -- as assessed by light microscopy images using live cells, (7) balance between cell-cell and cell-matrix adhesion as determined by quantifying the fraction of cells in multicell aggregates or with minimal cell-cell contact after 24 hours in culture, (8) Proliferation rates -- as quantified by cell counting for a period of 24 to 48 hours after the initial culture for 24 hours, and (9) Traction force -- as measured by displacement of markers

Select the boxes next to the objects you want to visualize and filter. If you download these objects, all of these selected objects will be included in the download.