

Laboratory of Biochemistry & Cell Biology

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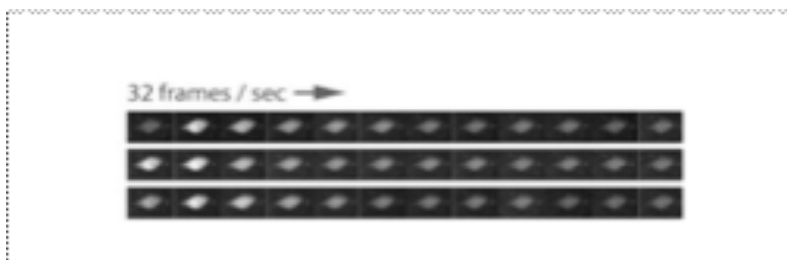


Research Outline

While biological organisms do have certain adaptive capacities with respect to minor environmental changes (i.e., temperature, gas composition, salinity, chemical contamination, etc.), the biological impacts of chemicals in the air and water need to be examined in order to avoid issues that would push organisms beyond their natural levels of resilience.

In our lab, we study the viability of mammalian cells in the presence of various exogenous factors. Contents of everyday foods, such as flavonoids, have shown to exert biological effects on the growth of cultured cells. Biological information such as this may be useful when attempting to control the growth of particular cell types that should be silent under normal conditions, including tumor cells.

One of our research initiatives involves the observation of cell differentiation after isolation from mammalian somatic tissues. Stem cells from skeletal muscles in particular show the potential to transform into beating cells exhibiting automaticity. The mechanism of automaticity is another one of our research interests, as well as the conditions under which cell differentiation occurs and the biological purpose of certain cell types.



Calcium transient of a beating cell

【Skills】

Skills you will obtain: Knowledge and methods of cell culture, microscopy, cellular calcium imaging, protein analysis, immunochemistry, designing various bioassays, performing 2D gel electrophoresis, etc.