Ph.D. Stipend Available

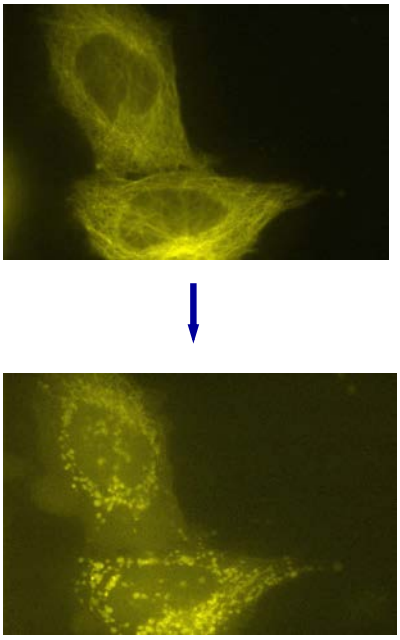
Controlling and Characterizing the Behavior of Singlet Oxygen in Mammalian Cells

Issues pertinent to the roles played by reactive oxygen species (ROS) in live cells will be studied. Singlet oxygen is a ROS that is important in processes that range from cell death to cell proliferation. It can diffuse over a finite distance in a cell and, as such, is a unique signaling agent. Messages are sent, for example, through its reactions with cellular proteins.

The molecular biology component of this project focusses on methods to (1) spatially control singlet oxygen production using optogenetic photosensitizers, and (2) monitor cell response using microscope-based techniques.

The techniques/tools involved include (1) the design, characterization, and incorporation of optogenetic proteins in live cells, and (2) the use of super-resolution microscopes to monitor cell response.

Those interested in this project are encouraged to contact us for further information.



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