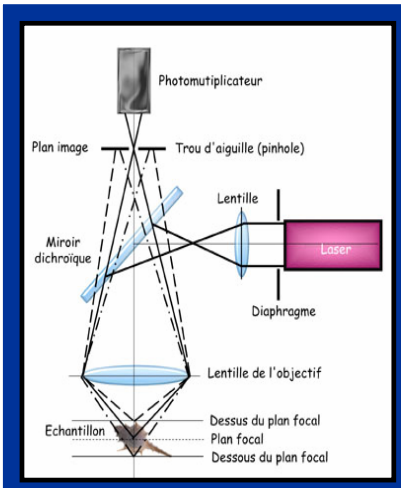
Confocal Microscope System

Confocal Microscope Schematic



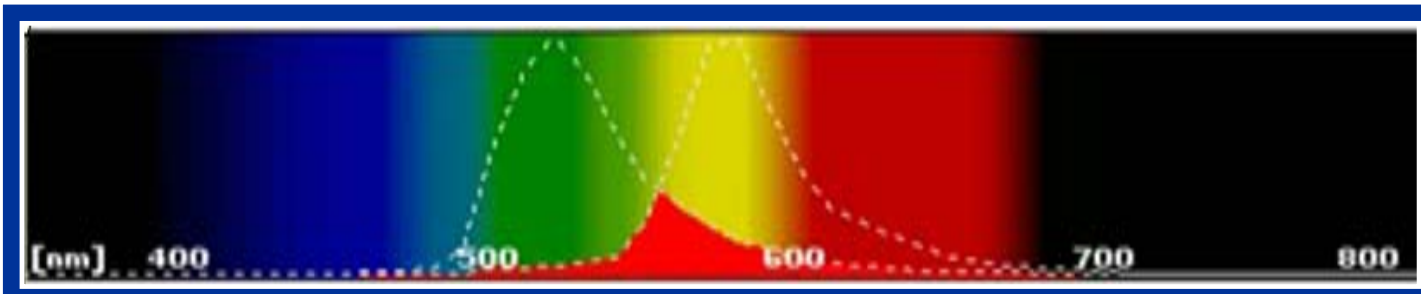
- A laser is used to provide the excitation light (in order to get very high intensities).
- The laser light reflects off a dichroic mirror. From there, the laser hits two mirrors which are mounted on motors
- These mirrors scan the laser across the sample. Dye in the sample fluoresces, and the emitted light gets descanned by the same mirrors that are used to scan the excitation light from the laser. The emitted light passes through the dichroic and is focused onto the pinhole. The light that passes through the pinhole is measured by a detector.

Confocal Microscope Equipment

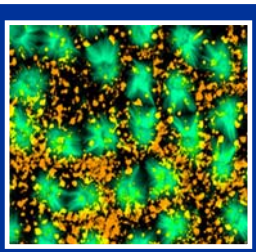
System feature

- Company : LEICA (Germany)
- Model : TCS SP2 AOBS
- Source : Visible range [Red (He-Ne 633nm), Green (He-Ne 543nm), Blue (Ar 458nm,476nm, 488nm, 514nm)] UV range [Diode 405nm]
- Optical Microscope : LEICA DMIRE2

Confocal Microscope Emission Spectra & Image

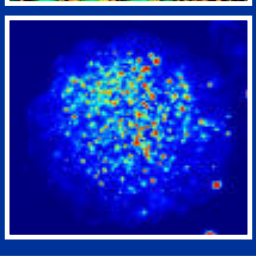


- Emission spectra of FITC and TRITC. The emission spectra of FITC and TRITC have a wide overlap (red area).

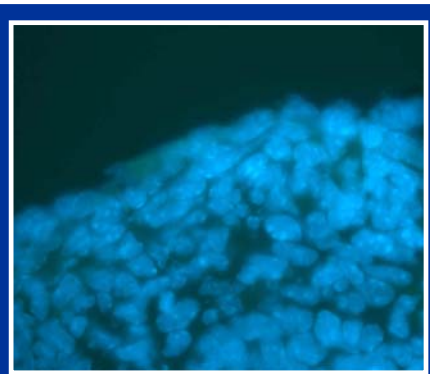


Image

- Golgi apparatus (in red) and the mitotic spindles (in green) of an ealy Drosophila embryo undergoing mitosis. Image by Steve Rogers.



- Confocal micrograph of tumor spheroid showing inner core cells undergoing apoptotis/necrosis (blue-green and red cells).
- The outer living cells are pale blue. (pseudocolor look-up table applied to image)



- Cells labeled with Hoechst