Movement of Slime Moulds

Physarum polycephalum uses a special mechanism for moving which involves the microfilaments actin and myosin. The actual movement is done by pseudopodia. These are formed and retracted by actin and myosin filaments working together at the backend of the cell. Like a toothpaste tube that is squeezed at the end, this contraction at the backend of the cell pushes the fluid contents of the cell forward, thus creating and extending a pseudopodium at the frontend.

In the following experiment, you will investigate *Physarum*'s movement with a microscope.

Experiment

Material Microscope, object slide, cover glass, water, pipette, scalpel, *Physarum polycephalum*

Conduct Carefully transfer the plasmodium onto the object slide using the scalpel.

Add a drop of water to the cell using the pipette. Cover it with the cover glass.

Take a look at the mould with the microscope. Look for cyclosis.

After observing cyclosis, switch off the microscope for a few minutes. Then take another look at the same spot and watch out for changes.

Result Were you able to see cyclosis? What happened after the plasmodium was not lit for a few minutes?

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