Chemotaxis in Physarum

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Chemotaxis is the movement of an organism up and down a concentration gradient. The aim of this project is to test and observe the effects of different concentrations of glucose on the chemotaxis in physarum slime molds. To test the problem we grew our own physarum molds on an agar base and allowed the cultures to grow for two to three days. After our cultures had grown we cut small pieces of the agar with the physarum attached and placed the physarum side down onto strips of paper that had been soaked in various concentrations of glucose. We observed the movement of the physarum after twenty-four hours and recorded the movement of the physarum on each concentration. 90% of the physarum moved away from the 100-mM solution and 10% of the physarum had no movement in relation to the solution. 70% of the physarum had no movement in relation to the 10-mM solution, 20% moved away from the solution and 10% moved towards the solution. 80% of the physarum moved towards the 1.0-mM solution and 20% had no movement. 80% of the physarum moved away from the .10-mM solution and 20% had no movement. 100% of the physarum had no movement in the 0-mM solution. As physarum are under researched organisms this project will help contribute to knowledge of these organisms.

Awards Won: