CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
22448

Project Title
What Is the Effect of Heat on the Extraction of DNA from Fruit Flies (Drosophila) Larvae Cells?

Abstract

Objectives/Goals
What affect dosetemperature variation has on fruit flies (Drosophila) Larva Cells, so that DNA could be extracted from them?

How many times will be nesessary to isolate the DNA from the Cell and cut it with resticition enzymes, in order to get clear DNa bounding pattern?

Methods/Materials
You swatch ~80 larva fruilt flies until you get a soup. Put the substance in a beaker. Place another beaker in top of the first add water and a thermometer, and test the six different temperatures. Centrifuge 2 ml of the substance. Keep centriguge it in until you have layesr. Remove the appropriate layer then add 10% of SDS and 80 ul of NaCl. Also add 567 ul of TE Buffer. Centrifuge it, and add 70% of Ethanol and 96% ox Phenol. Performe the electrophoresis and the DNA fingerprints to determine if DNA was present or not in the DNA spource..

Results
I tested six different temperatures. At 168F DNAwas not present. At 173F DNA is not present seen before and after the electrophoresis. At 178 DNA was not present. At 183 F DNA was present. At 188 F DNt was present. At 193 F DNA was present. In this temperature there was a large particle formed in the bottom and middle of the centrifuge. This test was the test that I used to perform the resticition Digest. When I added the Eco RI to the DNA I saw that the molecule was separating in to smaller fragments

Conclusions/Discussion
Heating the DNA at hiht temperatures increases the posibility to extract DNA more efficiently. From the information that I have aquire at high temperatures the DNa molecule becomes denatured. The bondt between molecules bases are broken and the DNA ladder fall apart. This in fact has been my hypothesix in which it was supported by trhe results in the isolation of the six different temperatures. It was nesessary to cut the DNA with the resticition enzymes two times.

Summary Statement
My purposes of my experiment was to extract the DNA out of fruit flies larvalcells, and test the DNA at different temperatures, to see what was the effect.

Help Received
Mrs. Duran with research