CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)

Amy Shipley; Andrea Trader

Project Number

S0421

Project Title

SNPs and Their Correlation with Alzheimer's

Abstract

Objectives/Goals

We are investigating a successful protocol to screen DNA for SNPs. We chose two SNPS of interest using the University of California Santa Cruz (UCSC) Genome Browser and then applying our protocol to analyze their correlation with Alzheimer#s. Our belief is that it is possible to screen for SNPs and research suggests that certain SNPs do contribute to the chance of developing Alzheimer#s.

Methods/Materials

We will be using ZR Genomic DNA II Kit# and using resources in the UCSC labs to analyze the DNA. Our procedures include collecting the DNA from the human subjects by having them swish Saline Solution in their mouths for 30 seconds and then spitting the solution back in a test tube. We will continue by following the Rinse Method for Buccal Cell extraction. After we have isolated the DNA, we will design a PCR (polymerase chain reaction) to amplify the DNA. If we successfully amplify the DNA, we will add restriction enzymes to cut the DNA at the SNP sites of interest. Finally, we will analyze DNA for SNPs using electrophoresis and see if results correlate with the genetic history of each sample.

Results

Our protocol is still underway and not completed at this time.

Conclusions/Discussion

Analyzation is not complete at this time but it is taking place.

Summary Statement

The purpose of this experiment is to show that it is possible to screen for Single Nucleotide Polymorphisms (SNPs) that could be associated with Alzheimer#s disease.

Help Received

Science Teacher layout project outlines; Rachel Heart helped teach us how to use UCSC Genome Browser; Used Lab equipment at UCSC under the supervision of Sofie Salama; Mothers helped drive us to UCSC; Linda Rogers helped organize project deadlines; San Lorenzo Valley High School Staff helped