CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
Allison E. Harger

Project Number
J1006

Project Title
Got Taste? Heredity and PTC

Abstract

Objectives/Goals
The objective is to see if the ability to taste PTC (phenylthiocarbamide)is due to a dominant or a recessive gene, if it is linked to race and if it is sex-linked.

Methods/Materials
There were 141 subjects, 102 of them my relatives, who were each first given a control strip to place on their tongue. They then reported if the strip had a bitter taste or no taste. After rinsing the mouth out with water, each subject was then given the PTC strip to place on their tongue and again reported whether the strip tasted bitter or had no taste. Some of the testing was done via U.S. mail.

Results
A total of 125 subjects out of 141 had the ability to taste PTC while 16 did not. Out of 64 males, 55 could taste the PTC strip and 9 could not. Out of 77 females, 70 could taste the PTC strip and 7 could not. Out of 117 North American Caucasians, 102 tasted the PTC strip and 15 did not. Out of 11 African-Americans, 10 tasted and 1 did not. There were 13 from a mixture of ethnic backgrounds, and all of them tasted the PTC strip. No one tasted the control strip.

Conclusions/Discussion
My conclusion is that the ability to taste PTC is due to a dominant gene, and it is not linked to race or sex. Although the ability/inability to taste PTC in and of itself has no particular ramifications to an individual, it does show how a trait is inherited and passed down through generations. This same process can then be applied to other inherited traits that are of more importance, in the case of certain diseases, for instance.

Summary Statement
The project is about genetics and whether the ability to taste PTC (phenylthiocarbamide) is due to a dominant or recessive gene, is linked to race (African-American, Caucsian) and if it is sex-linked.

Help Received
My mom helped get addresses of subjects and typed my report.