CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J1322

Project Title
E. coli vs. Ampicillin: "In This Corner..."

Abstract

Objectives/Goals
The objective is to determine the frequency of ampicillin resistant E.coli from the digestive tract.

Methods/Materials
Stool specimens were obtained from 54 Bakersfield residents. 1-2 isolates of E.coli were identified from the volunteer stool specimens. An automated susceptibility test was performed on each E.coli isolate to determine if the E.coli was sensitive or resistant to the ampicillin. 60 isolates of E.coli were tested. The percentage of ampicillin resistant E.coli strains were calculated.

Results
In my experiment 24 of the 60 E.coli isolates were found to be resistant to ampicillin and 36 were found to be sensitive. This calculated to be 40% of the E.coli strains were resistant to ampicillin and 60% were sensitive.

Conclusions/Discussion
Penicillin and its derivatives such as ampicillin were the first commercially available antibiotics. Today, these antibiotics are very commonly prescribed for a number of infections and diseases. This antibiotic has widespread use in the community, which may explain the increased resistance E.coli has developed to ampicillin.

Summary Statement
The objective is to determine the frequency of ampicillin resistant E.coli from the digestive tract.

Help Received
I worked on my experiment in the lab at Memorial hospital under the supervision of my parents (microbiologists).