



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Marcus J. Kurth</b>	<b>Project Number</b> <b>J1420</b>
<b>Project Title</b> <b>Antimicrobial Activity of Some Medicinal Plants</b>	
<b>Abstract</b> <b>Objectives/Goals</b> To establish whether some common herbs or antiseptics possess antimicrobial characteristics. It is hypothesized that some of the plant extracts will indeed kill some bacteria, while others will not. <b>Methods/Materials</b> Herbs and Antispectics: Garlic, Oregano, Eucalyptus, Sage, Thyme, and Chloraseptic. Bacterial Cultures: Escherichia Coli, Staphylococcus Saprophyticus, Staphylococcus Epidermidis. Lab Equipment: 30 agar plates, incubator, sterile cotton swabs, sterile filter paper disks, sterile forceps, and bunsen burner. <b>Results</b> Some herbs had an antibacterial effect while others did not. Against E. Coli bacteria, Eucalyptus worked best by far, with Sage and Thyme also showing some zones of inhibition. Chloraseptic, Oregano, and Garlic had limited affect. Sage did best against Staph S. while Oregano was least effective. The antimicrobial effects of the other herbs was bounded by the efficacy of those two. Against Staph E., Sage was best again while the medicinal effects of the others was less. <b>Conclusions/Discussion</b> My research showed that some herbs will kill bacteria. This is the first of many steps needed to develop an antibacterial drug. New drugs are difficult to discover because they must possess two key attributes: they kill the bacteria but are nontoxic to humans. For example, the top bacterial killer in this report, Eucalyptus, is toxic to humans in large quantities, and therefore a great deal of care and trials would need to be undertaken in using this herb as a medicine. Nevertheless, finding new antimicrobial drugs is an important field since many bacteria are becoming resistant to antibiotics.	
<b>Summary Statement</b> The evaluation of the antimicrobial activity of commercial herbs against three pathogenic microorganisms.	
<b>Help Received</b> Used lab equipment at Saddleback College under the supervision of Dr. Karah Street.	