

Quin Waterbury  
*Antibacterial Material?*

This project tested if papaya extract disabled the catalase in *Pseudomonas aeruginosa* and *Staphylococcus aureus*. These bacteria are both pathogenic, which means they can get a healthy person sick. *Staphylococcus* can infect wounds, and *Pseudomonas* is most common in burn wounds. They can be very harmful, and destroy parts of your body. Papaya has several antioxidants, enzymes, vitamins, and minerals. It contains a large sum of papain, which is a protein enzyme that breaks down other proteins such as meat. Native Americans have used an extract of papaya on stings and burns, because it breaks down the toxins in the venom, and is an anti-inflammatory. The phytopreparation from papaya can accelerate wound healing and reduce the severity of local inflammation in rats with burn wounds. The effect of this phytopreparation can be related to an increase in the effectiveness of intracellular bacterial killing by tissue phagocytes due to the inhibition of bacterial catalase. The papaya extract did not disable the catalase in the bacteria. The results were possibly altered by the fact that the papaya extract contained a small amount of catalase.