

Ace Conger

*Boom! Boom! Brain Power: The Antibiotic Effect of Cockroach Nerve Tissue on E. coli and S. epidermis*

The purpose of this research project was to determine if cockroach nervous tissue and body parts can decrease bacterial growth in *E. coli* K12 and *Staphylococcus epidermidis*. For the procedure, the researcher grew stock cultures of both types of bacteria. A Madagascar Hissing Cockroach was dissected and the nervous tissue was separated from the cockroach body parts. The control was plated and diluted with sterile water with no cockroach parts added. The experimental groups had 0.1 ml of nervous system solution added and 0.1 ml of cockroach solution added to the bacteria and was incubated. After incubation the bacteria was diluted with sterile water and plated. Colonies were counted. Overall, it appears that the cockroach nervous system and body parts were effective against *E. coli* but not *Staphylococcus*. When compared to the control, the *E. coli* showed a decrease in growth with both nervous and body parts. The controls showed 5495 and 7143.5 colonies of *E. coli*. The nervous average showed a large decrease when compared to the control of 1585.7 and 2386.4 colonies. The cockroach body parts showed the most decrease when compared to the control. They both had an average of 706.5 and 337.6 colonies. The *Staphylococcus* control groups each had 1962.5 and 2229.4 colonies. The nervous groups contained 2237.25 and 2692.6 colonies, equal to or more than the control. The body parts contained an average of 2041 and 1522.9 colonies, slightly less than the control but not extremely effective. The cockroach nervous and body parts were good at decreasing bacterial growth in *E. coli*, but not *Staphylococcus*.