

THE EFFECTS OF QUORUM SENSING ANTAGONISTS ON BIOFILM DISPERSION

Juan M. Guzman and Gregory G. Anderson. Department of Biology, Purdue School of Science, Indiana University–Purdue University Indianapolis, Indiana 46202

Cystic fibrosis (CF) is a recessive genetic disorder that causes the formation of thick mucus plugs in the lungs of approximately 30,000 people in the United States and 60,000 individuals world-wide. *Pseudomonas aeruginosa*, an opportunistic bacterial pathogen, is able to colonize the mucus plugs and form antibiotic resistant biofilms. These microbial colonies, known as biofilms, cause serious problems for individuals living with CF. *P. aeruginosa* biofilms are able to cause chronic infections in the lungs of CF patients leading to increased morbidity and mortality. Using a modified biofilm assay, we tested the effects of modified chemical compounds and amino acids on *P. aeruginosa* biofilm dispersion. A previous study performed on *P. aeruginosa*, found that treatment of d- and l- amino acids resulted in biofilm dissemination. Through additional experiments, we will identify modified chemical compounds that induce biofilm dispersion. This research will increase our knowledge of *P. aeruginosa* biofilm dispersion, and allow us to explore new forms of treatment and therapy for CF patients with chronic infections that could be life threatening.