

KATHERINE PHILLIPS & JOSEPH HORZEMPA, Department of Biological Sciences, West. Liberty University, West Liberty, WV 26074. The Effect of Dillapiole on *Acinetobacter baumannii*, a Gram-Negative Opportunistic Pathogen.

*Acinetobacter baumannii* is an encapsulated, non-motile, gram-negative bacterium. *A. baumannii* has become an increasingly important hospital-acquired pathogen, specifically affecting immunocompromised individuals in intensive care units. This bacterium can cause several diseases, including bacteremia, pneumonia, wound infections, and urinary tract infections. *A. baumannii* has several virulence factors and can acquire antibiotic resistance genes, which have led to multidrug resistant (MDR) strains. Due to the increasing number of MDR *A. baumannii* strains, the development of new therapeutics is critical. The Horzempa Lab previously discovered that dillapiole, a natural product extracted from fennel, is effective in decreasing virulence factor expression in *Francisella tularensis*, a gram-negative bacterium. Dillapiole is structurally similar to acyl homoserine lactones (AHLs, a class of quorum-sensing molecules in gram-negative bacteria); quorum sensing is a process that regulates bacterial pathogenesis and biofilm production. The focus of current investigations is to determine if dillapiole decreases biofilm formation and virulence factor expression in *A. baumannii*. (Supported by an Institutional Development Award [IDeA] from the National Institute of General Medical Sciences of the National Institutes of Health [P20GM103434]).