KAITLYN BAILEY & JOSEPH HORZEMPA. Department of Biomedical Sciences, West Liberty University, West Liberty, WV. The Effect of Dillapiole on the pathogenesis of *Escherichia coli*

Dillapiole, a compound isolated from the plant, *Foeniculum vulgare* (Fennel, Hinojo), was previously discovered to have been effective at diminishing virulence factor expression of *Francisella tularensis,* a gram-negative bacterium with bioterror potential. The purpose of this work is to examine the therapeutic potential of dillapiole on other pathogenic bacteria such as *Escherichia coli*. *E. coli* is a motile, rod-shaped, gram-negative bacterium that is typically found in the intestines of animals and humans and can be an opportunistic pathogen. With the increase of multi-drug resistance among various bacteria, it is important for further research on new therapeutic agents. As in previous studies involving *F. tularensis,* data presented here suggest that dillapiole does not directly diminish the viability of *E. coli.* Dubia cockroach infection assays were used to evaluate the ability of dillapiole to dampen the pathogenesis of *E. coli.* Roaches infected with *E. coli* that were subsequently treated with dillapiole exhibited similar survival to those treated with tetracycline. However, cockroaches that were treated with the vehicle (DMSO) exhibited reduced levels of survival. This finding suggests that dillapiole might be dampening *E. coli* pathogenesis or could be modulating cockroach immunity. Ongoing studies are focusing on the effect of dillapiole on *E. coli* virulence gene expression (Supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence).