KATHLEEN LOUGHMAN, John Marshall High School, Glen Dale, WV 26003, CLAUDIA OSPINA, Dept of Natural Sciences and Mathematics, Inter American University of Puerto Rico, Bayamón, Puerto Rico, & JOSEPH HORZEMPA, Dept of Biological Sciences, West Liberty University, West Liberty, WV 26074. Typhinamycin – A Novel Phytochemical from *Rhus typhina* Extract Exhibits Antimicrobial Activity Toward ESKAPE Pathogens.

Antibiotic resistance is a leading contributor of the worsening public health crisis of the 21st century. Several medically-relevant bacteria are resistant to available antibiotics, especially the ESKAPE pathogens (*Enterococcus* sp.*, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa,* and *Enterobacter* species). While very few new antibiotics are in development, discovery of novel antibiotic agents is imperative to combat this threat. Natural products represent a revived area of interest as a potential source for new antimicrobials. Previous screening of ethanolic extract of *Rhus typhina* (Staghorn sumac) indicated that this material exhibited marked growth inhibition against 4/6 ESKAPE pathogens at 24 hrs. A novel methoxylated derivative of fisetin (Typhinamycin) from the extract was isolated, identified, and tested for antimicrobial activity against the ESKAPE pathogens. In a microtiter plate containing rich growth media inoculated with equivalent levels of bacteria, serial dilutions of Typhinamycin were added to evaluate antibacterial activity. After incubation at 37°C, bacterial growth was measured using a plate reader. Wells lacking treatment were used to identify normal growth levels. Preliminary results indicate Typhinamycin produces substantial inhibition of all ESKAPE pathogens. Future investigations will involve the characterization and a detailed analysis of the antimicrobial efficacy of this compound. *(Supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence)*