GAGE PYLES and JOSEPH HORZEMPA, Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV. Utilizing the Francisella tularensis Live Vaccine Strain as a novel vaccine platform against the Ebola Virus.

Francisella tularensis and the Ebola Virus (EBOV) are classified by the Centers for Disease Control and Prevention as Category A select agents for their potential use in bioterrorism. The F. tularensis Live Vaccine Strain (LVS) has been shown to provide over 30 years of protective immunity against F. tularensis, while for EBOV there remains no clinically approved protective vaccine. Due to the immunogenic properties of LVS, we propose that LVS may be a promising vaccine platform, of which recombinant strains may be able to confer protection against both F. tularensis and other pathogenic microbes such as EBOV. To test this, a fusion protein consisting of the glycoprotein of EBOV (GP) and LpnA (an immunodominant outer-membrane lipoprotein of F. tularensis) has been created. This newly generated chimeric protein (LpnA-GP) will ultimately be expressed in LVS, and the efficacy of this strain as a vaccine against both pathogens will be determined.