Researchers at the University of South Florida have developed a series of new compounds for the potential treatment of Leishmaniasis and of ESKAPE bacterial pathogens.

Leishmaniasis is caused by the protozoan Leishmania donovani and presents in three main forms: cutaneous, visceral, and mucocutaneous, where mucocutaneous is the most destructive. No vaccines currently exist and the existing treatments for the disease are ineffective, and toxic; hence the need to develop highly effective new drugs. Additionally, a group of pathogens dubbed ESKAPE pathogens, have garnered more attention in recent years due to their ability to ‘escape’ the effects of antibiotics. They represent new paradigms in pathogenesis, transmission and resistance. Furthermore, due to the rapid increase in drug resistant pathogens, it is imperative that efforts focused on drug development continue.

Heat Shock Protein 90 (Hsp90) is known to be a highly conserved protein amongst these bacterial pathogens and is involved in a variety of morphological processes. Inhibiting Hsp90 is therefore recognized as a potential therapeutic target for the treatment of these pathogens.

USF inventors have developed a series of novel Hsp90 inhibitors that they have shown to be effective against Leishmania donovani and ESKAPE pathogens. This development has the potential to provide a new more effective treatment that is also less toxic than the current gold standard treatments.

---

**ADVANTAGES:**
- Potentially more effective than current treatments
- Less toxic than current treatments
- Able to treat a variety of bacterial pathogens

**New Treatments for Pathogenic Microorganisms**

A) Leishmania donovani  B) Enterobacte spp.  
C) Methicillin-resistant Staphylococcus aureus  D) Acinetobacter

*Images Courtesy of the Centers for Disease Control and Prevention*

Tech ID # 15A051  Patent #: 9,737,509