

Activity of N-Acylated Ciprofloxacin Derivatives Against Facultative Intracellular Bacteria

Researchers at the University of South Florida have developed synthetically derived N-acyl ciprofloxacin derivatives to treat infections caused by facultative intracellular bacteria including Bartonella.

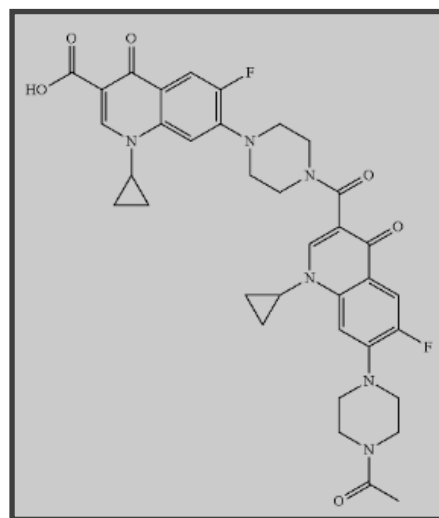
Bartonella is a gram-negative intracellular bacteria that can thrive with or without oxygen present. Bartonella species are responsible for a wide range of diseases in animals and humans. These bacteria can be transmitted by several insects including ticks, fleas, sand flies, and mosquitoes. Some Bartonella species have been recognized as emerging pathogens, and at least eight of the species are known to infect humans. Infections by these bacteria present a wide variety of symptoms that can vary between acute and chronic. Most Bartonella species are sensitive to quinolones, which are a class of antibiotics commonly used to treat bacterial infections. However, treatment failures have been reported. This highlights the need for a more effective Bartonella treatment option.

USF inventors have developed a selection of N-acyl ciprofloxacin analogues chemically derived from the antibiotic ciprofloxacin. The antibacterial activity of these derivatives against several gram negative bacteria have been tested, including multiple *Francisella Tularensis* strains and nine Bartonella strains. Furthermore, *in vitro* testing was performed to assess the intracellular activity of each compound. These analogues were found to exhibit significant antibacterial activity and therefore may be an effective treatment for infections caused by various facultative intracellular bacteria including Bartonella.

ADVANTAGES:

- Novel antibacterial compounds
- Effective treatment option for facultative intracellular bacteria
- Antibacterial activity against Bartonella
- Applications in humans and animals

Novel Antibacterial Compounds Against Facultative Intracellular Bacteria



The Novel Patented Compound Used to Treat Bartonella Infections

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