Researchers at the University of South Florida have synthesized and analyzed the antimicrobial properties of a set of 2, 4 Diaminoquinazoline analogues.

Staphylococcus aureus is a major human pathogen that is believed to be the most common cause of human infectious disease and death in the United States. It is responsible for a variety of conditions within the human body, ranging from localized skin and soft tissue infections to severe invasive disease, such as endocarditis and bacteremia. With an epidemic rise in antibiotic resistant S. aureus strains, and the lack of an effective vaccine, it is becoming increasingly important to develop new antimicrobial agents to treat infections caused by this pathogen.

Our inventors have synthesized a novel library of compounds which have shown to be effective against Methicillin resistant Staphylococcus aureus (MRSA) with the most active compounds having minimum inhibitory concentration (MIC) < 1mM. Gene sequencing of the few mutants formed using the most active compounds suggests a novel mechanism of action, as the target was shown not to be those commonly associated with these agents, including topoisomerase, gyrase, and dihydrofolate reductase.

The novel compounds provided from this invention have the potential to be useful as novel antibiotic agents against Staphylococcal infections as they try to overcome the problem of antibiotic resistance. This invention is directly applicable to the field of antibiotics and antimicrobials thereby contributing to medicine and healthcare.

**ADVANTAGES:**
- Minimum Inhibitory Concentration < 1 mM
- Library of compounds shown to be effective against Methicillin Resistant Staphylococcus aureus
- Limited toxicity and very low levels of resistance to their activity

**Novel Antimicrobials Against**

**Staphylococcus aureus**

**Methicillin-resistant Staphylococcus aureus, MRSA**

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