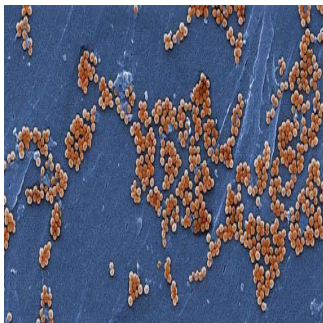


Chemists Uncover New Class of Antibiotics



According to research findings described in an article entitled "Discovery of a New Class of Non-beta-lactam Inhibitors of Penicillin-Binding Proteins with Gram-Positive Antibacterial Activity", and published in the the Journal of the American Chemical Society, a team of University of Notre Dame researchers have discovered a new class of antibiotics to fight bacteria such as methicillin-resistant Staphylococcus aureus (MRSA) and other drug-resistant bacteria that threaten public health.

Called oxadiazoles, the new class was discovered in silico (by computer) screening and has shown promise in the treatment of MRSA in mouse models of infection.

The team of researchers, led by Mayland Chang and Shahriar Mobashery, screened 1.2 million compounds and found that the oxadiazole inhibits a penicillin-binding protein, PBP2a, and the biosynthesis of the cell wall that enables MRSA to resist other drugs.

The oxadiazoles are also effective when taken orally, an important feature as there is currently only one marketed MRSA antibiotic that can be taken orally. In total, there are just three effective drug treatments and resistance to each of those drugs already exists.

MRSA has become a global public-health problem since the 1960s because of its resistance to antibiotics. In the United States alone, 278,000 people are hospitalised and 19,000 die annually from infections caused by MRSA.

Chang explained that Professor Mobashery had been researching the mechanisms of resistance in MRSA for years in order to understand them and devise strategies to develop compounds against MRSA.

Greg Crawford, dean of the College of Science at the University of Notre Dame, praised Mayland Chang and Shahriar Mobashery's discovery, and expressed his gratitude for their leadership and persistence in the fight against drug resistance.

Source: [Science Daily](#)

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