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Fighting drug resistance with a new antibiotic

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Humans are colonized by billions of bacteria but remain healthy because most microorganisms do not cause disease and the immune system is effective at eliminating microbes that enter our body. But some bacteria, such as *Staphylococcus aureus* can thwart the immune system's defenses and cause disease. To treat these infections, drugs termed antibiotics are used to kill the bacteria. However, *S. aureus* and other pathogenic bacteria have developed resistance against many existing antibiotics, rendering these drugs obsolete. Antibiotic resistance has reached crisis proportions and is predicted to result in over 10 million deaths annually by 2050 if new and effective antibiotics are not discovered. My research aims to find new antimicrobials to treat *S. aureus* infections. To date, I have discovered a molecule called 6-thioguanine that prevents drug resistant *S. aureus* from causing skin infections by inhibiting its ability to make toxins that are responsible for this disease.