

Quorum quenching: An approach to next generation antibiotics

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Groups of bacteria communicate with one another to coordinate their behaviour and function like a multi cellular organism and this process is termed as Quorum Sensing.

Quorum Quenching is the technique that can disrupt the bacteria's ability to communicate and thereby disable or diminish the bacteria's ability to become pathogenic. The body is therefore not compromised by cell damage, inflammation, toxicity or other detrimental effects of the bacteria. This gives the body time to eradicate the bacteria naturally through normal immune system functions. Its main purpose is presumably to defend the organism against bacterial infections. Conventional antibiotics kill bacteria by interfering with essential functions like DNA, RNA and protein synthesis. However, the emergence of antibiotic-resistant 'superbugs' has led to an urgent need to develop novel antibacterial drugs. Quorum quenching is a promising approach. Quorum quenching has a great therapeutic potential, since interfering with the bacterial communication can prevent colonization of specific pathogen bacteria that use quorum sensing to coordinate virulence. The crystal structures of several quorum-quenching enzymes have been found and their catalytic mechanisms elucidated. Quorum Quenching may serve as a promising approach in developing very effective next generation antibacterial drugs.

Biography

Sanchit Agarwal is pursuing his B.tech Biotechnology degree from Amity University Rajasthan, India. He has presented a poster in an International Conference. He want to do future research in the field of pharmacy for the better tomorrow of pharmaceutical products.

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