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IISc researchers propose a more effective treatment for tuberculosis

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A team of researchers at the Indian Institute of Science (IISc) has found whether and how drug resistance can develop against a candidate drug called Augmentin even before the drug is approved for treating patients with drug-resistant tuberculosis (TB).

The researchers have found ways of overcoming this potential resistance mechanism, thereby making Augmentin a potentially powerful drug to treat both multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB).

The team used integrated experimental technology and computer tools to understand the mechanism by which resistance against Augmentin can set in.

There are certain antibiotics such as clofazimine that work by increasing the levels of reactive oxygen species (ROS) inside bacteria. The researchers are currently testing if using such antibiotics along with Augmentin can efficiently kill drug-resistant TB bacteria.

Augmentin and clofazimine antibiotics can together elevate the production of ROS. The excessive ROS inside the bacteria can then kill all forms of drug-resistant TB bacteria.

Augmentin is currently undergoing clinical trials in patients with drug-resistant TB. It is already being used for common bacterial infections.