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Development of Anti-Bacterial Agents by Using Structural Information

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Today, scientific strategy in drug discovery and development is changing rapidly. After determining the three-dimensional structure of bioactive macromolecules, which are the main targets of novel drugs, small molecules can be designed and synthesized to fit into the binding pockets. Many druggable protein targets are being discovered with completion of the analysis of human and many bacterial genomes. Researchers in several large pharmaceutical firms are already making their efforts to discover drugs targeting these proteins. In our lab, we have studied the structure of antibiotics target proteins from pathogenic bacteria by using NMR and X-ray Crystallography. In this talk, I will present the antibiotics candidates which were developed by using structural information.