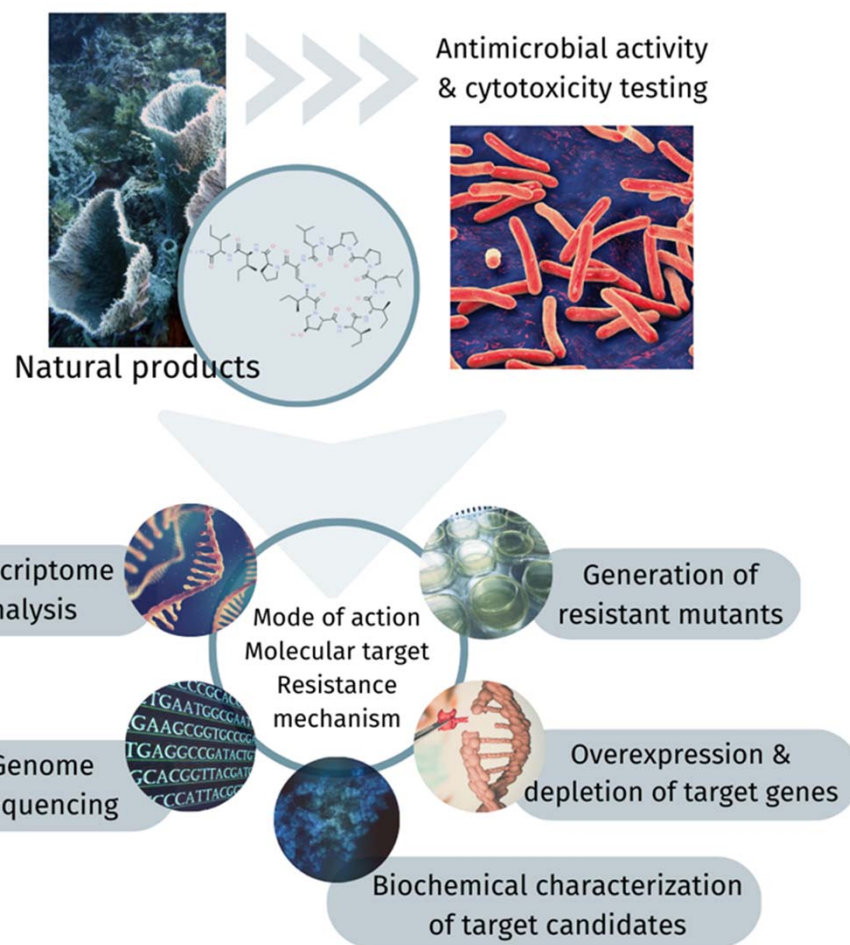


Characterization of the molecular mechanisms underlying antibacterial activity of natural products



Treating bacterial infections like tuberculosis is becoming more demanding due to the rise of multi-drug resistant strains. Thus, new antibiotics with unique modes of action are desperately needed to combat drug resistance. In this project, we will concentrate on the characterization of the mode of action, molecular targets, and resistance mechanisms of natural compounds, whose antibacterial activity against *Mycobacterium tuberculosis* has previously been identified in our group, including callaerin derivatives with antitubercular activity. For this purpose, a combination of molecular biological, microbiological, and genetic approaches will be used, such as characterization of resistant strains, site-specific overexpression and depletion of putative target candidates, transcriptome analysis of the induced stress profiles, as well as biochemical analysis of potential target proteins and their interactions. Furthermore, screening efforts will be ongoing, to identify further bioactive natural compounds.