OVERCOMING METALLO-β-LACTAMASE MEDIATED RESISTANCE IN BACTERIA

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Antibacterial resistance represents one of the largest threats to public health worldwide.\(^1\)\(^-\)\(^4\) The problem is getting worse due to the lack of new effective treatments being authorized over the past few years, which may lead to infections becoming more difficult to treat in the future. Probably the most important antibiotic resistance mechanisms in terms of distribution and clinical relevance are β-lactamases.\(^5\)

β-lactamases are enzymes that hydrolyze β-lactam antibiotics compromising the efficacies of β-lactams, our largest group and mainstay of antimicrobial chemotherapy for more than 60 years.

This poster will outline a novel technology called ZinChel.\(^6\)-\(^8\) The ZinChel technology aims to inhibit an important class of resistance enzymes found in gram-negative bacteria that render β-lactam antibiotics useless, thus restoring the effect of the β-lactam antibiotics. There are currently no clinical inhibitor against these enzymes, the metallo-β-lactamases, and there is an urgent need for new treatments. This poster will summarize the synthesis, \textit{in vitro} and \textit{in vivo} results from one of the best compounds, ZN148, shown below.

![ZN148](image)