Title: Docking Avibactam into β-lactamase from Mycobacterium Tuberculosis

# By Team Microbe

# Team Members & Roles:

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# Project Variable:

The presence of Avibactam.

# Hypothesis:

We think the inhibitor Avibactam will effectively bind to the active site of β-lactamase from Mycobacterium Tuberculosis (H37Rv), thereby inhibiting its enzymatic activity.

# Interesting Facts About β-lactamase:

* β-lactamase was the first type of enzyme identified to develop resistance to antibiotics (e.g., penicillin).
* They require metal ions like zinc for their catalytic activity.
* They break down β-lactam rings that are present in antibiotics, rendering them ineffective against bacterial infections.
* They are produced by bacteria, making them resistant to β-lactam antibiotics.
* β-lactamase genes can be transferred between different species, leading to infections.
* Scientists are studying inhibitors to counter the effect of β-lactamase and restore antibiotic efficiency.