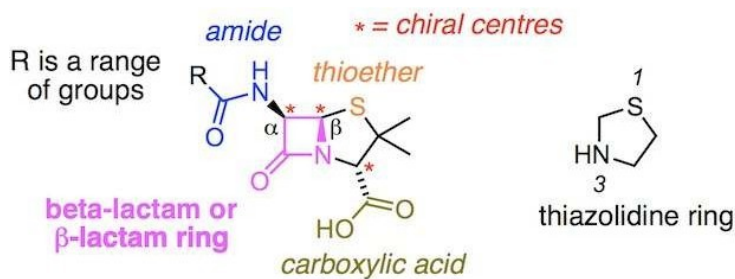


## Week 2 discussion Chem

Your initial post in the discussion this week consists of two parts. First, choose a molecule used in healthcare, industry, or found in a natural source and discuss the importance of this molecule. Be sure to include at least one outside source and make sure to follow APA citation guidelines

### Answer:

The molecule I have chosen to write about is penicillin.



Penicillin is a molecule; it is a complex chemical compound, produced by molds, that acts as an antibiotic by interfering with bacterial cell wall synthesis.

<https://www.britannica.com/science/penicillin>

**Chemical structure:** Penicillin's core structure includes a beta-lactam ring, which is a key feature responsible for its **antibiotic activity**. It is made up of certain molds.

Penicillin is often considered one of the most **effective antibiotics** because it specifically targets and disrupts the cell wall of bacteria, a crucial structure for their survival, by inhibiting the cross-linking of peptidoglycan, effectively weakening the cell wall and causing the bacteria to burst open, while leaving human cells unharmed as they lack this cell wall structure; this mechanism makes it highly effective against a wide range of bacteria, particularly gram-positive bacteria, when used appropriately. <https://www.news-medical.net/health/Penicillin-Mechanism.aspx>