

Keywords and Phrases for Antibiotic Resistance Concept Map

Altering the transport proteins in the cytoplasmic membrane

Altering the target site receptor for the antibiotic to reduce or block its binding

Alters shape of aminoglycosides

Antibiotic does not enter the bacterium

Breaks down beta-lactam antibiotics

Erythromycin, azithromycin, clarithromycin, dirithromycin, troleandomycin

Increased synthesis of the limited enzyme

Insufficient antibiotic to tie up all the enzyme

Modulating gene expression to produce more of the bacterial enzyme that is being tied up or altered by the antibiotic

Once the antibiotic is no longer present, the bacterium starts replicating again

Penicillins, monobactams, carbapenems, cephalosporins

Producing altered transpeptidases

Producing an altered 50S subunit to which macrolides no longer bind

Producing new enzymes that destroy, alter, or inactivate the antibiotic

Producing an efflux pump that actively transport the antibiotic back out of the bacterium

Streptomycin, neomycin, netilmicin, tobramycin, gentamicin, amikacin

The bacterium stops replicating when the antibiotic is present