

**Key Words and Phrases for Concept Map on
How Antibiotics Affect Bacterial Structures and Functions:
Agents that Alter Prokaryotic Ribosomal Subunits,
Inhibit RNA Polymerase, and Denature Enzymes**

Antibiotic/synthetic drug binds to prokaryotic ribosomal subunits.

Anticodons of charged tRNAs cannot align with the codons of the mRNA

Binds to 30S ribosomal subunit

Binds to 50S ribosomal subunit

Blocks translation of mRNA into protein

Inhibits bacterial RNA polymerase

An agent that kills or inhibits growth of microbes but is safe to use on human tissue.

May damage the lipids and/or proteins of the semipermeable cytoplasmic membrane of microorganisms.

Interferes with the binding of the 50S subunit to the initiation complex

Interferes with the proofreading process that helps assure the accuracy of translation

An agent that reduces microbial numbers to a safe level.

Prevents peptidyltransferase from forming peptide bonds

Prevents the transfer of the peptidyl tRNA from the A-site to the P-site

A metabolic product produced by one microorganism that inhibits or kills other microorganisms.

May denature microbial enzymes and other proteins.

Synthetic chemicals that can be used therapeutically.