

Tigecycline (Tygacil)

Tigecycline (Tygacil) is a bacteriostatic antibiotic, and is categorized as a glycylcycline antibiotic. It works to inhibit bacterial protein synthesis by binding to the 30S ribosomal subunit. This drug is indicated in complicated skin and intra-abdominal infections, along with cases of community-acquired pneumonia. Tigecycline boasts deep tissue penetration and broad spectrum coverage, making it indicated for numerous gram-positive, gram-negative, anaerobic and multidrug-resistant infections. Common side effects of this drug include GI symptoms, with nausea and vomiting being the most common complaints.



PLAY PICMONIC

Mechanism Of Action

Glycylcycline Antibiotic

[Glider-cycle ABX-guy](#)

Tigecycline was developed from a third generation tetracycline medication, called minocycline. Tigecycline, which is categorized as a glycylcycline antibiotic, has structural similarities and is derived from, minocycline.

Binds 30S Subunit

[Binding to \(30\) Dirty S](#)

Tigecycline works as a bacteriostatic antibiotic by binding to the smaller 30S ribosomal subunit of the great 70S ribosome required for mRNA translation to peptide chains, effectively inhibiting bacterial protein synthesis.

Inhibits Protein Synthesis

[Inhibiting-chains on Mr. Protein](#)

This antibiotic acts as a protein synthesis inhibitor. It does so by blocking the interaction between the A site of the bacterial ribosome and the aminoacyl-tRNA of the bacterial 30S ribosomal subunit.

Indications

Severe Infections

[Severed Infectious-bacteria](#)

This antibiotic has a wide range of indications and is often used to treat complicated skin infections, intra-abdominal infections, as well as community-acquired pneumonia (CAP).

Broad Spectrum Coverage

[Broad Spectrum of Colors](#)

Due to its structural modifications as a derivative of minocycline, this drug has activity against a variety of gram-positive and gram-negative bacteria, along with anaerobes. Additionally, this drug's broad spectrum coverage makes it useful in treating methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE), and other multidrug resistant bacteria. This drug has showed similar efficacy to vancomycin, aztreonam and imipenem; however, it does not have *Pseudomonas* or *Proteus* coverage.

Anaerobic & Multidrug-Resistant Organisms

[Ant-robe & Drugs Wearing Resistant-bandana](#)

In addition to various gram-negative and gram-positive bacteria, tigecycline is useful in treating anaerobic and multidrug-resistant organisms. Subsequently, this drug is indicated for use in complicated skin and intra-abdominal infections, which may be the result of multidrug-resistant infections, such as MRSA or VRE.

Deep Tissue Penetration

[Deep Tissue-box Penetration](#)

This antibiotic exhibits deep tissue penetration and is used to treat intra-abdominal infections, community-acquired pneumonia, as well as complicated skin infections.

Side Effects

GI Distress

[GI with Flare-gun](#)

The most commonly reported side effects of tigecycline are gastrointestinal (GI) complaints. Greater than 10% of patients taking this medication complain of GI complications, such as nausea, vomiting, and diarrhea.

Severe Nausea and Vomiting

[Severed Vomit](#)

Roughly 20% of patients develop nausea and vomiting with tigecycline use. These are the most common complaints associated with using this antibiotic.

Considerations

2nd Line Agent

[2nd-place-tutu Agent](#)

The FDA recommends that other alternative antibiotics be considered prior to tigecycline administration. This drug is considered a second-line agent because of the increased risk for all-cause mortality associated with its use.