

# **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 aminoacyltRNA 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.