

## Aztreonam (Azactam)

Aztreonam (Azactam) is a bactericidal antibiotic that works by inhibiting bacterial cell wall synthesis, causing disruption of the cell wall, ultimately leading to bacterial cell lysis and death. Because aztreonam is a monobactam antibiotic, it has a limited spectrum and is only effective against gram-negative aerobic bacteria. Side effects are limited with this medication and include blood dyscrasias, pain at the injection site, and thrombophlebitis. Although aztreonam is typically administered IV or IM, it can also be administered via a nebulizer. Keep in mind, because aztreonam is structurally different from penicillin, it is safe for use in individuals with a penicillin allergy without the risk of cross sensitivity.



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### Mechanism

#### Monobactam Antibiotic

[Monopoly-backgammon](#)

Aztreonam has a limited or narrow antimicrobial spectrum, as it is only effective against gram-negative aerobic bacteria.

#### Bactericidal

[Bacteria-sliders](#)

Aztreonam is a bactericidal antibiotic. These drugs inhibit cell wall synthesis by binding to specific proteins and weakening the bacterial cell wall. The disruption of the cell wall's integrity causes bacterial cell lysis and death.

### Indications

#### Gram-Negative Infections

[Graham-cracker Negative-devil](#)

Aztreonam is not a broad spectrum antibiotic and is only effective against gram-negative infections.

#### No Activity on Gram-Positives or Anaerobes

[No Activity on Graham-cracker Positive-angel or Ant-robe](#)

Due to its limited spectrum, aztreonam is not effective against infections caused by gram-positive or anaerobic bacteria.

### Side Effects

#### Blood Dyscrasias

[Blood-cell Disc-razor](#)

Neutropenia is characterized by an abnormally low white blood cell count. Blood dyscrasias, such as neutropenia, may occur in patients taking aztreonam.

#### Pain at Injection Site

[Pain-bolts at Injection Site](#)

Patients may experience pain at the injection site. Thrombophlebitis, or inflammation of the vein due to a blood clot (thrombus), may also occur.

## Considerations

### Safe for Penicillin Allergy

#### [Safe for Pencil-villain Allergy-alligator](#)

Aztreonam is structurally different from penicillin, and is generally safe for use in individuals with a penicillin allergy, without the risk of cross sensitivity. Important to note, some patients allergic to penicillins may exhibit hypersensitivity reactions to aztreonam. Obtain a thorough history prior to initiating therapy.

### Synergistic with Aminoglycosides

#### [Amigo-glider](#)

Combining aztreonam with an aminoglycoside antibiotic, such as gentamicin or tobramycin, has been shown to have a synergistic effect against certain microorganisms, especially *Pseudomonas aeruginosa*.

### Nebulizer Form Available

#### [Nimbus-cloud nebulizer](#)

Although aztreonam is typically administered IV or IM, it can also be administered via a nebulizer. This route of administration is commonly used to treat respiratory infections in patients with cystic fibrosis.