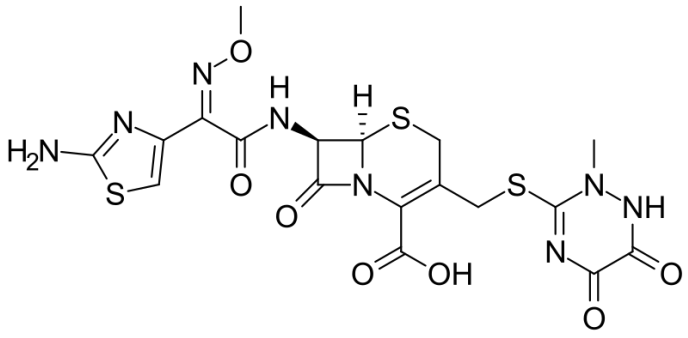
Brand Name: Rocephin
Generic: ceftriaxone
Type: small molecule
Year Accepted/Phase: 1982

Mechanism:

Ceftriaxone inhibits the synthesis of gram-positive and gram-negative bacterial cell walls, leading to cell lysis and death.

Chemical Structure:



Indication:

Rocephin is indicated for the treatment of infections such as respiratory tract infections, urinary tract infections, skin and soft tissue infections, sexually transmitted infections, bacterial septicemia, meningitis, and surgical prophylaxis.

Clinical trials:

Initial Clinical Trials
Dates: Late 1970s to early 1980s.
Results: Initial clinical trials demonstrated that ceftriaxone was highly effective against a broad range of bacterial infections, including respiratory tract infections, urinary tract infections, skin infections, and sexually transmitted infections like gonorrhea. The trials also showed that ceftriaxone had a favorable safety profile.
Impact: These trials led to the FDA approval of ceftriaxone in 1982 for the treatment of various bacterial infections.

Pediatric Trials
Purpose: Evaluate the safety and efficacy of ceftriaxone in pediatric populations.
Dates: Conducted in the 1980s and 1990s.
Results: Ceftriaxone was found to be effective and well-tolerated in children, including those with serious infections such as bacterial meningitis and sepsis. The once-daily dosing was particularly beneficial for pediatric patients, improving compliance.
Impact: These trials supported the use of ceftriaxone in pediatric patients, making it a standard treatment for serious bacterial infections in children.

Severe Infections and Hospital Use
Purpose: Assess the effectiveness of ceftriaxone in treating severe and hospital-acquired infections.
Dates: Ongoing studies since the 1980s.
Results: Ceftriaxone has been shown to be effective in treating severe infections, including sepsis, pneumonia, and intra-abdominal infections, both in community and hospital settings. Studies have also explored its use in combination with other antibiotics for multi-drug resistant infections.
Impact: These studies have reinforced the role of ceftriaxone as a critical antibiotic in the treatment of severe and hospital-acquired infections.