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Ceftolozane-Tazobactam

National Cancer Institute

Source

National Cancer Institute. *Ceftolozane-Tazobactam*. NCI Thesaurus. Code C156396.

A combination preparation containing ceftolozane, a semi-synthetic, broad-spectrum, fifth-generation cephalosporin and tazobactam, a beta-lactamase inhibitor, with activity against Gram-negative and Gram-positive bacteria. Upon intravenous administration, ceftolozane binds to and inactivates penicillin-binding proteins (PBPs) located on the inner membrane of the bacterial cell wall. This interferes with the final transpeptidation step required to form peptidoglycan chain cross-links, which are a key component of and provide strength and rigidity to the bacterial cell wall. This inhibits bacterial cell wall synthesis and reduces cell wall stability, which weakens the bacterial cell wall and causes bacterial cell lysis. Tazobactam irreversibly inhibits certain penicillinases and cephalosporinases and covalently binds to some chromosomal and plasmid-mediated bacterial beta-lactamases, thereby protecting ceftolozane from degradation and improving ceftolozane's activity.