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Piperacillin-Tazobactam

National Cancer Institute

Source

National Cancer Institute. *Piperacillin-Tazobactam*. NCI Thesaurus. Code C1530.

A combination formulation of the antibiotic piperacillin and the beta-lactamase inhibitor tazobactam with antibacterial activity. Piperacillin, a broad-spectrum, semisynthetic penicillin, binds to and inactivates penicillin-binding proteins (PBP) located on the inner membrane of the bacterial cell wall, thereby interfering with the cross-linking of peptidoglycan chains necessary for bacterial cell wall strength and rigidity. As a result, the cell wall is weakened and the cell lyses. Tazobactam, a penicillanic acid sulfone derivative, irreversibly binds to and inhibits bacterial beta-lactamase at or near its active site, thereby preventing the destruction of the beta-lactamase susceptible piperacillin by this bacterial enzyme.