

Product Name:	Cefadroxil
Product Number:	C119
CAS Number:	50370-12-2
Molecular Formula:	$C_{16}H_{17}N_3O_5S$
Molecular Weight:	363.39
Appearance:	White or almost white powder
Solubility:	Water: Freely Soluble
Water Content (Karl Fischer):	4.2-6.0%
pH:	4.0-6.0
Optical Rotation:	+165° to +178°
Storage Conditions:	-20 °C
Description:	Cefadroxil is a first generation cephalosporin antibiotic similar in structure and spectrum as cefalexin and cephradine. Cefadroxil exhibits bactericidal activity against a wide spectrum of bacteria.
Mechanism of Action:	Cephalosporins interfere with PBP (penicillin binding protein) activity involved in the final phase of peptidoglycan synthesis. PBP's are enzymes which catalyze a pentaglycine crosslink between alanine and lysine residues providing additional strength to the cell wall. Without a pentaglycine crosslink, the integrity of the cell wall is severely compromised and ultimately leads to cell lysis and death. Resistance to cephalosporins is commonly due to cells containing plasmid encoded β -lactamases.
Spectrum:	Cefadroxil is a broad spectrum antibiotic and has shown to be effective in treating skin and UTI infections caused by <i>Staphylococcus</i> and <i>Streptococcus</i> species.
Microbiology Applications	<p>Cefadroxil is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive and gram negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:</p> <ul style="list-style-type: none"> • <i>Streptococcus pneumoniae</i> 1 µg/ml - 16 µg/ml • <i>Staphylococcus aureus</i> 1 µg/ml - 2 µg/ml • For a complete list of cefadroxil MIC values, click here

References:

Georgopapadakou, N. H. "Mechanisms of Action of Cephalosporin 3'-quinolone Esters, Carbamates, and Tertiary Amines in Escherichia Coli." *American Society for Microbiology* 37.3 (1992): 559-65. *Antimicrobial Agents and Chemotherapy*. Web. 21 Aug. 2012.

Buck, R. E., and Et. Al. "Cefadroxil, a New Broad-Spectrum Cephalosporin." *Antimicrobial Agents and Chemotherapy* 11.2 (1977): 324-30. *Ncbi.gov*. Web. 11 Oct. 2012.

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