Cefradine
PRODUCT DATA SHEET

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Product Name:	Cefradine
Product Number:	C057
CAS Number:	38821-53-3
Molecular Formula:	$C_{16}H_{19}N_3O_4S•H2O$
Molecular Weight:	349.40
Form:	Powder
Appearance:	White to yellowish crystalline powder
Source:	Semi-synthetic
Water Content (Karl Fischer):	≤6.0%
pH:	3.5-6.0
Optical Rotation:	+80° to +90°
Storage Conditions:	-20°C
Description:	Cefradine (also known as cephradine) is a first generation cephalosporin antibiotic which a has similar anti-bacterial spectrum of activity to cefalexin. Cefradine is freely soluble in aqueous solution at 21.3 mg/mL.
Mechanism of Action:	Like β-lactams, 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.
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.