

7-Aminocephalosporanic Acid

PRODUCT DATA SHEET

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Product Name:	7-Aminocephalosporanic Acid
Product Number:	A093
CAS Number:	957-68-6
Molecular Formula:	$C_{10}H_{12}N_2O_5S$
Molecular Weight:	272.28
Form:	Powder
Appearance:	White or off-white powder
Solubility:	Insoluble in water and DMSO
Absorbance:	425nm: Not more than 0.1
pH:	3.0 - 5.0
Optical Rotation:	Not less than +86°
Storage Conditions:	2-8°C
Description:	7-Aminocephalosporanic Acid (7-ACA) is a key intermediate in the production of a wide variety of semisynthetic Cephalosporin antibiotics. It is an inhibitor of bacterial (<i>S. aureus</i>) β -lactamase. Cephalosporin C, isolated in 1950 from <i>Cephalosporium</i> , is regarded as a derivative of 7-ACA. 7-ACA is insoluble in water and DMSO.
Mechanism of Action:	7-Aminocephalosporanic Acid interferes with bacterial cell wall synthesis.
Spectrum:	Gram-positive bacteria
References:	Bianchi D, Bortolo R, Golini P, and Cesti P et al (1998) Enzymatic transformation of Cephalosporin C to 7-ACA by simultaneous action of immobilized D-amino acid oxidase and glutaryl-7-ACA Acylase. Appl. Biochem. Biotechnol. 73: 257 Loder B, Newton GGF, and E. P. Abraham EP (1961) The Cephalosporin C nucleus (7-Aminocephalosporanic Acid) and some of its derivatives. Biochem. J. 79(2):408-416 PMID 13763020 Morin RB, Jackson BG, Flynn EH and Roeske RW (1962) Chemistry of cephalosporin antibiotics. 1. 7-Aminocephalosporanic Acid from Cephalosporin C. J. Am. Chem. Soc. 84(17):3400-3401