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| Product Name: | 6-Aminopenicillanic acid |
| Product Number: | A089 |
| CAS Number: | 551-16-6 |
| Molecular Formula: | $C_8H_{12}N_2O_3S$ |
| Molecular Weight: | 216.26 |
| Appearance: | White or almost white crystalline powder |
| Source: | <i>Penicillium</i> |
| Absorbance: | 425nm - Less than 0.025; Transmittance: 500nm - Not less than 90.0% |
| pH: | 3.5 – 4.5 |
| Optical Rotation: | +265.0°-+285.0° |
| Description: | 6-Aminopenicillanic acid or (+)-6-Aminopenicillanic acid (6-APA) is an organic dipeptide and the chemical core or "nucleus" of penicillin antibiotics. It was discovered in 1958 by Scientists at The Beecham Group (UK). It is produced from Penicillin by penicillin amidase. 6-APA, a β -lactam, is used as a starting compound for synthesis of semisynthetic Penicillins and may be substituted at the 6-amino position, resulting in a variety of antibacterial properties. It is a precursor of Ampicillin and Amoxicillin. |
| Mechanism of Action: | 6-Aminopenicillanic acid interferes with the synthesis of bacterial cell walls of Gram-positive bacteria. |
| Spectrum: | 6-Aminopenicillanic acid is effective against Gram-positive bacteria. |
| References: | <p>Batchelor FR, Doyle FP, Nayler JH and Rolinson GN (1959) Synthesis of penicillin: 6-Aminopenicillanic acid in penicillin fermentations. <i>Nature</i> 183(4656):257-258</p> <p>Parmar A, Kumar H, Marwaha SS and Kennedy JF (2000) Advances in enzymatic transformation of penicillins to 6-Aminopenicillanic acid (6-APA). <i>Biotechnol Advances</i> 18(4):289-301</p> <p>Rolinson GN and Geddes AM (2007) Erratum to "The 50th anniversary of the discovery of 6-aminopenicillanic acid (6-APA)" <i>Int. J. Antimicrob. Agents</i> 29(5):613</p> |