PRODUCT INFORMATION

3-Aminopropylphosphonic Acid
Item No. 23556

CAS Registry No.: 13138-33-5
Formal Name: P-(3-aminopropyl)-phosphonic acid
Synonyms: β-Aminopropylphosphonic Acid, 3-APP, NSC 133832
MF: C₃H₁₀NO₃P
FW: 139.1
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

3-Aminopropylphosphonic acid (3-APP) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-APP in the solvent of choice. 3-APP is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 3-APP in these solvents is approximately 30, 2, and 5 mg/ml, respectively. 3-APP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3-APP should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 3-APP has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

3-APP is a phosphonic analog of GABA that acts as a partial agonist of GABA_B receptors (IC₅₀ = 1.5 μM in a radioligand binding assay). It induces relaxation in unstimulated isolated guinea pig ileum longitudinal muscle and reverses GABA- and baclofen-induced inhibition of twitch responses in isolated guinea pig ileum longitudinal muscle. 3-APP (5 mg/kg) completely inhibits GABA- and baclofen-induced inhibition of vagally stimulated bronchospasms in guinea pigs. It also reverses the antitussive effect of baclofen in cats when administered at a dose of 3 mg/kg.

References