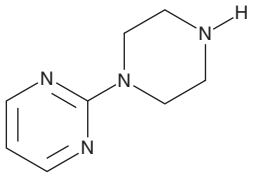
PRODUCT INFORMATION

2-(1-Piperazinyl)pyrimidine

Item No. 34091

CAS Registry No.: 20980-22-7
Synonyms: PmP, 1-PP, 1-(2-Pyrimidyl)piperazine
MF: $C_8H_{12}N_4$
FW: 164.2
Purity: ≥98%
UV/Vis.: λ_{max}: 247 nm
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years
Special Conditions: Low melting solid



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

Laboratory Procedures

2-(1-Piperazinyl)pyrimidine is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 2-(1-piperazinyl)pyrimidine in these solvents is approximately 10 mg/ml.

2-(1-Piperazinyl)pyrimidine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 2-(1-piperazinyl)pyrimidine should be diluted with the aqueous buffer of choice. The solubility of 2-(1-piperazinyl)pyrimidine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2-(1-Piperazinyl)pyrimidine is an antagonist of α_2-adrenergic receptors (α_2-ARs; pA_2 = 6.8 in rat brain synaptosomes) and active metabolite of various azapirones, including buspirone.[1-4] It is formed from buspirone by the cytochrome P450 (CYP) isoform CYP3A4 in human liver microsomes.[5] 2-(1-Piperazinyl)pyrimidine inhibits decreases in gastrointestinal transit induced by clonidine (Item No. 15949) in rats (ED_{50} = 0.8 mg/kg).[2] It increases drinking in the Vogel punished drinking task, indicating anxiolytic-like activity, in rats when administered at doses ranging from 1 to 4 mg/kg.[3] 2-(1-Piperazinyl)pyrimidine (0.25-1 mg/kg) also reduces the amplitude of electrically stimulated excitatory post-synaptic potentials (EPSPs) in the hippocampal CA1 region in rats, an effect that can be blocked by the serotonin (5-HT) receptor subtype 5-HT_{1A} antagonist spiroxatrine.[4] It has also been used a phosphopeptide derivatization agent.[6]

References

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3. Gower, A.J. and Tricklebank, M.D. *Eur. J. Pharmacol.* **155(1-2)**, 129-37 (1988).
4 Manahan-Vaughan, D., Anwyl, R., and Rowan, M.J. *Eur. J. Pharmacol.* **294(2-3)**, 617-624 (1995).
5. Zhu, M., Zhao, W., Jimenez, H., *et al. Drug Metab. Dispos.* **33(4)**, 500-507 (2005).
6. Zhang, L., Xu, Y., Lu, H., *et al. Proteomics* **9(16)**, 4093-4097 (2009).

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