

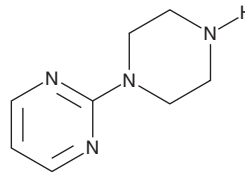
# PRODUCT INFORMATION



## 2-(1-Piperazinyl)pyrimidine

Item No. 34091

**CAS Registry No.:** 20980-22-7  
**Synonyms:** PmP, 1-PP, 1-(2-Pyrimidyl)piperazine  
**MF:** C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>  
**FW:** 164.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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<sub>2</sub>-adrenergic receptors (α<sub>2</sub>-ARs; pA<sub>2</sub> = 6.8 in rat brain synaptosomes) and active metabolite of various azapirones, including buspirone.<sup>1-4</sup> It is formed from buspirone by the cytochrome P450 (CYP) isoform CYP3A4 in human liver microsomes.<sup>5</sup> 2-(1-Piperazinyl)pyrimidine inhibits decreases in gastrointestinal transit induced by clonidine (Item No. 15949) in rats (ED<sub>50</sub> = 0.8 mg/kg).<sup>2</sup> 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.<sup>3</sup> 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<sub>1A</sub> antagonist spiroxatrine.<sup>4</sup> It has also been used a phosphopeptide derivatization agent.<sup>6</sup>

### References

1. Gobbi, M., Frittoli, E., and Mennini, T. *Eur. J. Pharmacol.* **180**(1), 183-186 (1990).
2. Bianchi, G., Caccia, S., Della Vedova, F., et al. *Eur. J. Pharmacol.* **151**(3), 365-371 (1988).
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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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