



Product Information

Buspirone hydrochloride

Product Number **B 7148**
Storage Temperature 2-8 °C

Product Description

Molecular Formula: $C_{21}H_{31}N_5O_2 \cdot HCl$
Molecular Weight: 422.0
CAS Number: 33386-08-2
Melting Point: 201.5 - 202.5 °C¹
Synonym: N-[4-[4-(2-pyrimidinyl)-1-piperazinyl]butyl]-8-azaspiro[4.5]decane-7,9-dione hydrochloride

Buspirone is a partial 5-HT_{1A} serotonin receptor agonist that has dopaminergic, noradrenergic, and serotonin-modulating properties.^{2,3} It is widely used in cell signaling and neuroscience research.

Buspirone has been used to mitigate the electrically stimulated 5-hydroxytryptamine outflow from rat cortical slices.⁴ The effect of buspirone on iontophoresis-mediated GABA response in cultured mouse spinal cord and cerebral hemisphere neurones has been studied.⁵ Buspirone and other anxiolytic compounds have been utilized in a study of stress-induced hyperthermia in singly housed mice.⁶ A comparison of buspirone and alnespirone in their effects on coeruleus neuronal activity in rats has been reported.⁷ Buspirone has been used to mitigate respiratory abnormalities in spinal cord-injured rats via the stimulation of serotonin 1A receptors.⁸

A liquid chromatography method for the analysis of buspirone has been described.⁹ Single-solute adsorption equilibrium isotherms for buspirone have been determined.¹⁰

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in methanol (50 mg/ml), with heat as needed, yielding a clear, colorless solution. It also has been reported to be soluble in water (10 mg/ml).

References

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7. Astier, B., et al., *In vivo* comparison of two 5-HT_{1A} receptors agonists alnespirone (S-20499) and buspirone on locus coeruleus neuronal activity. *Eur. J. Pharmacol.*, **459(1)**, 17-26 (2003).

8. Teng, Y. D., et al., Serotonin 1A receptor agonists reverse respiratory abnormalities in spinal cord-injured rats. *J. Neurosci.*, **23(10)**, 4182-4189 (2003).
9. Kartal, M., et al., Liquid chromatographic method for the analysis of buspirone HCl and its potential impurities. *J. Chromatogr. Sci.*, **38(4)**, 151-156 (2000).
10. Quinones, I., et al., Adsorption equilibria and overloaded band profiles of basic drugs in a reversed-phase system. *J. Chromatogr. A*, **877(1-2)**, 1-11 (2000).

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