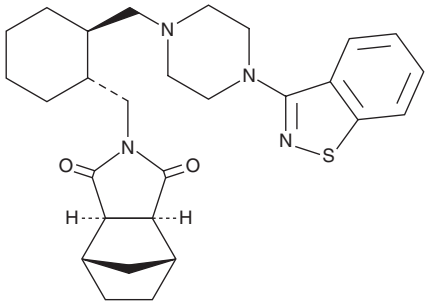
PRODUCT INFORMATION

Lurasidone

Item No. 9000570

CAS Registry No.: 367514-87-2
Formal Name: (3aR,4S,7R,7aS)-2-[[(1R,2R)-2-[[4-(1,2-benzisothiazol-3-yl)-1-piperazinyl]methyl]cyclohexyl]methyl] hexahydro-4,7-methano-1H-isoindole-1,3(2H)-dione
MF: $C_{28}H_{36}N_4O_2S$
FW: 492.7
Purity: ≥98%
UV/Vis.: λ_{max}: 205, 318 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Lurasidone is supplied as a crystalline solid. A stock solution may be made by dissolving the lurasidone in the solvent of choice, which should be purged with an inert gas. Lurasidone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of lurasidone in these solvents is approximately 30 mg/ml.

Lurasidone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, lurasidone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Lurasidone has a solubility of approximately 0.33 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Lurasidone is an atypical antipsychotic that binds to dopamine D_2, serotonin (5-HT) receptor subtypes 5-HT_{2A}, 5-HT_{1A}, and 5-HT_7, and α_{2C}-adrenergic receptors (K_is = 1.68, 2.03, 6.75, 0.495, and 10.8 nM, respectively).[1] *In vivo*, pre-training administration of lurasidone (1 and 3 mg/kg) reverses impairment in step-through latency and passive avoidance in a foot shock test induced by MK-801 (Item No. 10009019) in rats. It reverses MK-801-induced learning impairment in the Morris water maze as well as reference and working memory impairment in the radial arm maze in rats.[2] Lurasidone also decreases immobility in the tail suspension and forced swim tests, indicating antidepressant-like activity in mice.[3] Formulations containing lurasidone have been used in the treatment of schizophrenia and mood disorders.

References

1. Ishiyama, T., Tokuda, K., Ishibashi, T., *et al.* Lurasidone (SM-13496), a novel atypical antipsychotic drug, reverses MK-801-induced impairment of learning and memory in the rat passive-avoidance test. *Eur. J. Pharmacol.* **572(2-3)**, 160-170 (2007).
2. Enomoto, T., Ishibashi, T., Tokuda, K., *et al.* Lurasidone reverses MK-801-induced impairment of learning and memory in the Morris water maze and radial-arm maze tests in rats. *Behav. Brain Res.* **186(2)**, 197-207 (2008).
3. Cates, L.N., Roberts, A.J., Huitron-Resendiz, S., *et al.* Effects of lurasidone in behavioral models of depression. Role of the 5-HT_7 receptor subtype. *Neuropharmacology* **70**, 211-217 (2013).

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