

Product Data Sheet

Product Name: BD 1047 dihydrobromide

Cat. No.: GC15374

Chemical Properties

Cas. No. 138356-21-5

Chemical Name N1-(3,4-dichlorophenethyl)-N1,N2,N2-trimethylethane-1,2-diamine dihydrobromide

SMILES C1C=CC(CCN(C)CCN(C)C)=CC=C1Cl.Br.Br

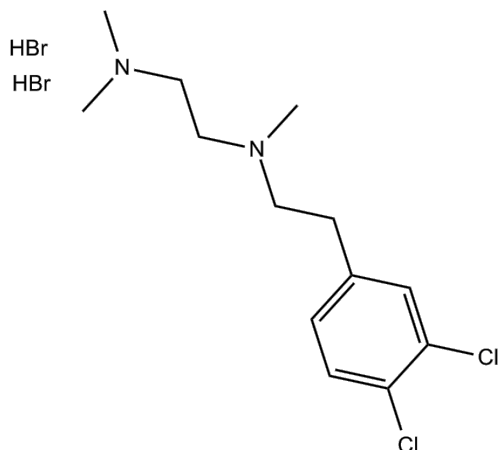
Formula $C_{13}H_{20}Cl_2N_2 \cdot 2HBr$ M.Wt 437.04

Solubility ≥ 43.9 mg/mL in DMSO with gentle warming, ≥ 43.5 mg/mL in Water with gentle warming Storage Store at $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

BD 1047 dihydrobromide is an antagonist of σ_1 receptor with K_i values of 0.93 and 47 nM for σ_1 receptor and σ_2 receptor, respectively [1].

Caution: Product has not been fully validated for medical applications. For research use only.

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σ -receptor is a type of opioid receptor. There are two subtypes of σ -receptor: σ -1 and σ -2. σ -1 receptor plays an important role in stimulating dopamine release and modulating the actions of cocaine.

BD 1047 dihydrobromide is a σ -1 receptor antagonist. BD 1047 reduced the dystonia induced by haloperidol and di-o-tolylguanidine (DTG) in a dose-dependent way [1].

In male Wistar rats, BD1047 (20 or 30 mg/kg) reversed response reinstatement induced by the cocaine discriminative stimulus (SD). However, BD1047 had no effect on sweetened condensed milk (SCM) SD-induced responding [2]. In rats with chronic constriction injury (CCI) of the right sciatic nerve, BD1047 significantly relieved CCI-induced mechanical allodynia during the induction. Also, BD1047 significantly increased the expression of σ -1 receptor in the ipsilateral spinal cord dorsal horn and inhibited N-methyl-D-aspartate receptor subunit 1 (NR1) expression and phosphorylation induced by CCI [3].

References:

- [1]. Matsumoto RR, Bowen WD, Tom MA, et al. Characterization of two novel sigma receptor ligands: antidystonic effects in rats suggest sigma receptor antagonism. *Eur J Pharmacol*, 1995, 280(3): 301-310.
- [2]. Martin-Fardon R, Maurice T, Aujla H, et al. Differential effects of sigma1 receptor blockade on self-administration and conditioned reinstatement motivated by cocaine vs natural reward. *Neuropsychopharmacology*, 2007, 32(9): 1967-1973.
- [3]. Roh DH, Kim HW, Yoon SY, et al. Intrathecal injection of the sigma(1) receptor antagonist BD1047 blocks both mechanical allodynia and increases in spinal NR1 expression during the induction phase of rodent neuropathic pain. *Anesthesiology*, 2008, 109(5): 879-889.

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