# BD-1047 dihydrobromide

**Cat. No.:** HY-16996A

**CAS No.:** 138356-21-5

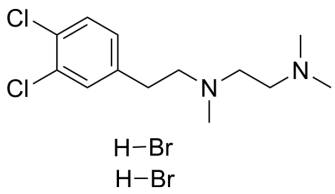
**Molecular Formula:** $C_{13}H_{22}Br_2Cl_2N_2$

**Molecular Weight:** 437.04

**Target:** Sigma Receptor

**Pathway:** Neuronal Signaling

**Storage:** 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 25 mg/mL (57.20 mM; Need ultrasonic)
$H_2O$ : 25 mg/mL (57.20 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.2881 mL | 11.4406 mL | 22.8812 mL |
| 5 mM | 0.4576 mL | 2.2881 mL | 4.5762 mL |
| 10 mM | 0.2288 mL | 1.1441 mL | 2.2881 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 33.33 mg/mL (76.26 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.72 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.72 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

BD-1047 (dihydrobromide) is a selective functional antagonist of sigma-1 receptor, shows antipsychotic activity in animal models predictive of efficacy in schizophrenia[1].

**$IC_{50}$ & Target**

Sigma 1 Receptor

**In Vitro**

BD-1047 (dihydrobromide) prevents that Cutamesine reduces the cell death rate induced by light exposure in murine photoreceptor-derived 661w cells[2].
?BD-1047 (dihydrobromide) attenuates that Cutamesine reduces the mitochondrial damage and the elevated level of

caspase 3/7 activity[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

BD-1047 (dihydrobromide) (1-10 mg/kg; i.p.) decreases the Apomorphine (APO)-induced climbing behavior at the dose of 10 mg/kg in mice[1].

?BD-1047 (dihydrobromide) counteracts the antidepressant-like effect induced by co-administration of pramipexole and sertraline (but not pramipexole and fluoxetine)[3].

?BD-1047 (dihydrobromide) reduces the increasing expression of pNR1, and reverses the Sig-1 R agonists potentiated NMDA-induced pain behaviour and pNR1 immunoreactivity[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Male Albino Swiss mice (50 days old, 25–28 g)[1] |
| Dosage: | 1 mg/kg, 3 mg/kg, 10 mg/kg |
| Administration: | Intraperitoneal injection |
| Result: | Decreased the APO-induced climbing at the dose of 10 mg/kg in mice. |

## CUSTOMER VALIDATION

- Cell Rep. 2023 Jan 31;42(1):112011.
- Mol Med. 2022 Aug 3;28(1):87.
- Int Immunopharmacol. 2023 Dec 22:127:111382.
- Int Immunopharmacol. 2023 Feb 22;117:109907.
- Eur J Pharmacol. 2023 Mar 8;175647.

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## REFERENCES


[1]. Skuza G, et al. Effect of BD 1047, a sigma1 receptor antagonist, in the animal models predictive of antipsychotic activity. Pharmacol Rep. 2006 Sep-Oct;58(5):626-635.

[2]. Shimazawa M, et al. Effect of a sigma-1 receptor agonist, cutamesine dihydrochloride (SA4503), on photoreceptor cell death against light-induced damage. Exp Eye Res. 2015 Mar;132:64-72.

[3]. Rogóz Z, et al. Mechanism of synergistic action following co-treatment with pramipexole and fluoxetine or sertraline in the forced swimming test in rats. Pharmacol Rep. 2006 Jul-Aug;58(4):493-500.





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