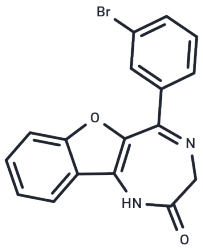
Data Sheet (Cat.No.T22518)

TargetMol

5-BDBD

Chemical Properties



CAS No. : 768404-03-1

Formula: C17H11BrN2O2

Molecular Weight: 355.19

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	5-BDBD is a potent and selective P2X4 receptor antagonist. 5-BDBD inhibits rP2X4R-mediated currents with an IC50 of 0.75 μM. 5-BDBD completely blocked the basal and acute hyperalgesia induced by NTG.
Targets(IC50)	P2X Receptor
In vitro	5-BDBD could be specifically used to discriminate between P2X1R, P2X2aR, P2X2bR, P2X3R, P2X4R, and P2X7R[1]. 5-BDBD inhibits 10 μM ATP-induced currents of rP2X4R-expressing HEK293 cells in a concentration-dependent manner, with an IC50 of 0.75 μM [1]. 5-BDBD displaces rightward the ATP concentration-response curve, with an EC50 of 4.7 to 15.9 μM[1].
In vivo	Basal hyperalgesia induced by recurrent NTG injection was completely blocked by 5-BDBD[2].
Animal Research	5-BDBD (28 mg/kg; i.p.; daily for 9 days; male C57BL/6 mice) prevented NTG-induced mechanical hypersensitivity[2].

Solubility Information

Solubility	DMSO: 50 mg/mL (140.77 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (14.08 mM),Solution. 10% DMSO+90% Saline: < 5 mg/mL (14.08 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8154 mL	14.077 mL	28.1539 mL
5 mM	0.5631 mL	2.8154 mL	5.6308 mL
10 mM	0.2815 mL	1.4077 mL	2.8154 mL
50 mM	0.0563 mL	0.2815 mL	0.5631 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Coddou C, et al. Characterization of the antagonist actions of 5-BDBD at the rat P2X4 receptor. Neurosci Lett. 2019; 690:219-224.

Long T, et al. Microglia P2X4 receptor contributes to central sensitization following recurrent nitroglycerin stimulation. J Neuroinflammation. 2018;15(1):245. Published 2018 Aug 30.