

BT2

## Chemical Properties

CAS No. : 34576-94-8

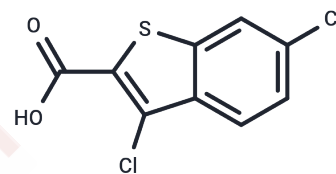
Formula: C<sub>9</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>S

Molecular Weight: 247.1

Store at low temperature

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	BT2, a BCKDC kinase (BDK) inhibitor, exhibits an IC <sub>50</sub> of 3.19 μM and functions as a potent, selective Mcl-1 inhibitor with a K <sub>i</sub> value of 59 μM. Its interaction with BDK induces helix movements in the N-terminal domain, leading to BDK's dissociation from the branched-chain α-ketoacid dehydrogenase complex (BCKDC).
Targets(IC <sub>50</sub> )	Bcl-2 Family
In vivo	BT2 treatment reduces the protein levels of BDK in kidneys and heart. The -fold activation of BCKDC activity in the above tissues correlates with decreased phosphorylation in heart, muscle, and kidney after the long term BT2 treatment. BT2 (20 mg/kg/day; i.p.; daily; for 7 days; C57BL/6J male mice) treatment robustly enhances BCKDC activity in the heart (12.3-fold) compared with the vehicle-treated animals. Less activation is obtained in muscle and kidney at 3.6- and 3.8-fold, respectively [1].

## Solubility Information

Solubility	DMSO: 82.5 mg/mL (333.87 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: 3.3 mg/mL (13.35 mM), Sonication is recommended. <i>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.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	4.0469 mL	20.2347 mL	40.4694 mL
5 mM	0.8094 mL	4.0469 mL	8.0939 mL
10 mM	0.4047 mL	2.0235 mL	4.0469 mL
50 mM	0.0809 mL	0.4047 mL	0.8094 mL

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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

Tso SC, et al. Benzothiophene carboxylate derivatives as novel allosteric inhibitors of branched-chain  $\alpha$ -ketoacid dehydrogenase kinase. *J Biol Chem.* 2014 Jul 25;289(30):20583-93.

Friberg A, et al. Discovery of potent myeloid cell leukemia 1 (Mcl-1) inhibitors using fragment-based methods and structure-based design. *J Med Chem.* 2013 Jan 10;56(1):15-30.

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