

MTOB

Chemical Properties

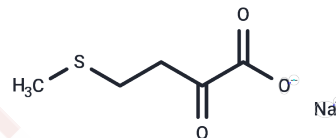
CAS No. : 51828-97-8

Formula: C₅H₇NaO₃S

Molecular Weight: 170.16

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	MTOB (α -keto- γ -Methylthiobutyric acid) is a substrate for c-terminal binding protein (CtBP) that interferes with the carcinogenic activity of CtBP in cell culture and mice. It also actively regulates TCF-4 signaling, leading to cancer stem cell (CSC) growth and self-renewal.
Targets(IC50)	Others,DNA/RNA Synthesis

Solubility Information

Solubility	DMSO: 55 mg/mL (323.23 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	PBS: 100 mg/mL (587.68 mM),Solution. <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

	1mg	5mg	10mg
1 mM	5.8768 mL	29.3841 mL	58.7682 mL
5 mM	1.1754 mL	5.8768 mL	11.7536 mL
10 mM	0.5877 mL	2.9384 mL	5.8768 mL
50 mM	0.1175 mL	0.5877 mL	1.1754 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

- Dcona MM, Morris BL, Ellis KC, Grossman SR. CtBP- an emerging oncogene and novel small molecule drug target: Advances in the understanding of its oncogenic action and identification of therapeutic inhibitors. *Cancer Biol Ther.* 2017 Jun 3;18(6):379-391. doi: 10.1080/15384047.2017.1323586. Epub 2017 May 22. PubMed PMID: 28532298; PubMed Central PMCID: PMC5536941.
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- Korwar S, Morris BL, Parikh HI, Coover RA, Doughty TW, Love IM, Hilbert BJ, Royer WE Jr, Kellogg GE, Grossman SR, Ellis KC. Design, synthesis, and biological evaluation of substrate-competitive inhibitors of C-terminal Binding Protein (CtBP). *Bioorg Med Chem.* 2016 Jun 15;24(12):2707-15. doi: 10.1016/j.bmc.2016.04.037. Epub 2016 Apr 20. PubMed PMID: 27156192; PubMed Central PMCID: PMC4993153.
- Hilbert BJ, Morris BL, Ellis KC, Paulsen JL, Schiffer CA, Grossman SR, Royer WE Jr. Structure-guided design of a high affinity inhibitor to human CtBP. *ACS Chem Biol.* 2015 Apr 17;10(4):1118-27. doi: 10.1021/cb500820b. Epub 2015 Jan 30. PubMed PMID: 25636004; PubMed Central PMCID: PMC4844192.

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