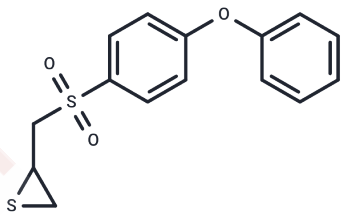
# Data Sheet (Cat.No.T2009)

TargetMol

SB-3CT

## Chemical Properties



CAS No. : 292605-14-2

Formula: C15H14O3S2

Molecular Weight: 306.4

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 | SB-3CT is a potent and specific gelatinase inhibitor for MMP-2 (Ki = 13.9 nM) and MMP-9 (Ki = 600 nM). |
| Targets(IC50) | MMP |
| In vitro | In a permanent cerebral ischemia mouse model induced by an embolus, SB-3CT protects neurons from ischemic cell death by inhibiting the degradation of neuronal adhesion proteins. Furthermore, daily intraperitoneal injections of SB-3CT (5-50 mg/kg) in the L-CI.5sT murine lymphoma model significantly hinders liver cancer cell metastasis. Likewise, in a model of osteolytic metastasis of human prostate cancer cells, daily intraperitoneal administration of SB-3CT (50 mg/kg) curtails cell growth, bone resorption, and angiogenesis. |
| In vivo | SB-3CT is capable of reducing osteolytic responses, aiding in the maintenance of bone integrity. In PC3 tumor cells, SB-3CT inhibits cellular growth. Within the basement membrane matrix, SB-3CT directly suppresses the infiltration of bone marrow endothelial cells and tubule formation. |
| Kinase Assay | kinase assays: PI3K inhibition by LY294002 is determined in a radiometric assay using purified, recombinant enzymes with 1?μM ATP. The kinase reaction is carried out for 1? hour at room temperature (24oC) and is terminated by addition of PBS. IC50 values are subsequently determined using a sigmoidal dose-response curve fit (variable slope). CK2 and GSK3β (glycogen synthase kinase 3β) inhibition is established by kinase selectivity screening. LY294002 is tested against the Upstate panel of kinases in 10?μM ATP. |
| Cell Research | SB-3CT is dissolved in DMSO (10 mM) and stored (-22°C), and then diluted with appropriate media (DMSO 1%) before use[2]. PC3 cells are seeded in 35-mm dishes (5×104 cells/dish) in complete culture medium. The next day, the medium is replaced with complete medium supplemented with 1% DMSO alone (vehicle) or SB-3CT (final concentrations 0.1-50 μM) in 1% DMSO. At various times, the cells are harvested with trypsin and counted[2]. |

## Solubility Information

| | |
|---|---|
| Solubility | Ethanol: 6.1 mg/mL (19.91 mM),Sonication is recommended.<br>DMSO: 250 mg/mL (815.93 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 3.2637 mL | 16.3185 mL | 32.6371 mL |
| 5 mM | 0.6527 mL | 3.2637 mL | 6.5274 mL |
| 10 mM | 0.3264 mL | 1.6319 mL | 3.2637 mL |
| 50 mM | 0.0653 mL | 0.3264 mL | 0.6527 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

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Liu H, Yao C, Zhang L, et al. Nanoliposomes co-encapsulating Ce6 and SB3CT against the proliferation and metastasis of melanoma with the integration of photodynamic therapy and NKG2D-related immunotherapy on A375 cells. Nanotechnology. 2021
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Lei Z, Chen H, Zhang H, et al. Evaluation of Matrix Metalloproteinase Inhibition by Peptide Microarray-Based Fluorescence Assay on Polymer Brush Substrate and in Vivo Assessment[J]. ACS applied materials & interfaces. 2017 Dec 20;9(50):44241-44250.