

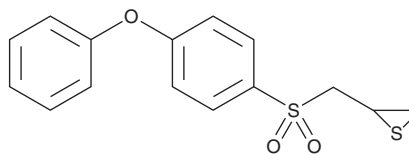
# PRODUCT INFORMATION



## SB-3CT

Item No. 16337

**CAS Registry No.:** 292605-14-2  
**Formal Name:** 2-[[[4-phenoxyphenyl)sulfonyl]methyl]-thiirane  
**Synonyms:** Matrix Metalloproteinase-2/9 Inhibitor IV, MMP-2/MMP-9 Inhibitor IV  
**MF:** C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>S<sub>2</sub>  
**FW:** 306.4  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 244 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

SB-3CT is supplied as a crystalline solid. A stock solution may be made by dissolving the SB-3CT in the solvent of choice, which should be purged with an inert gas. SB-3CT is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of SB-3CT in these solvents is approximately 2, 15, and 25 mg/ml, respectively.

SB-3CT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SB-3CT should first be dissolved in DMF and then diluted with the aqueous buffer of choice. SB-3CT has a solubility of approximately 0.1 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

SB-3CT is a selective, mechanism-based inhibitor of the gelatinases, matrix metalloproteinase-2 (MMP-2) and MMP-9 (K<sub>i</sub>s = 28 and 400 nM, respectively).<sup>1,2</sup> First pass metabolism of SB-3CT *in vivo* produces a monohydroxylated metabolite that has greater inhibitory activity (K<sub>i</sub>s = 6 and 160 nM for MMP-2 and MMP-9, respectively).<sup>2</sup> Both SB-3CT and its active metabolite can cross the blood-brain barrier and have utility in diseases of the central nervous system, such as stroke and traumatic brain injury.<sup>2,3</sup> SB-3CT may have applications in other pathologies involving gelatinases, including cancer, cardiovascular diseases, and inflammation.<sup>4,5</sup>

### References

1. Kleifeld, O., Kotra, L.P., Gervasi, D.C., et al. *J. Biol. Chem.* **276**(20), 17125-17131 (2001).
2. Gooyit, M., Suckow, M.A., Schroeder, V.A., et al. *ACS Chem. Neurosci.* **3**(10), 730-736 (2012).
3. Hadass, O., Tomlinson, B.N., Gooyit, M., et al. *PLoS One* **8**(10), e76904 (2013).
4. Krüger, A., Arlt, M.J., Gerg, M., et al. *Cancer Res.* **65**(9), 3523-3526 (2005).
5. Gooyit, M., Lee, M., Schroeder, V.A., et al. *J. Med. Chem.* **54**(19), 6676-6690 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/15/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM