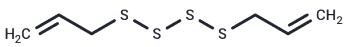
Data Sheet (Cat.No.T36057)

TargetMol

Diallyl Tetrasulfide

Chemical Properties



CAS No. : 2444-49-7

Formula: C6H10S4

Molecular Weight: 210.39

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	Diallyl tetrasulfide is an organosulfur compound that has been found in A. sativum and has diverse biological activities, including antimicrobial, antioxidant, and anticancer properties.[1],[2],[3],[4] It is active against the bacteria S. aureus and methicillin-resistant S. aureus (MRSA; MICs = 0.5 and 2 mg/L, respectively), as well as the fungi C. albicans, C. krusei, C. glabrata, A. niger, A. flavus, and A. fumigatus (MICs = 0.5, 4, 2, 1, 2, and 4 mg/L, respectively).[1] It reduces cadmium-induced increases in hepatic levels of thiobarbituric acid reactive substances (TBARS) and increases cadmium-induced decreases in the hepatic activity of superoxide dismutase (SOD1), catalase, GST, and glucose-6-phosphate dehydrogenase (G6PDH) in rats when administered at a dose of 40 mg/kg.[2] Diallyl tetrasulfide is cytotoxic to MCF-7 breast cancer cells (IC50 = 92 μM) and reduces tumor growth in a BGC-823 mouse xenograft model when administered at doses of 20, 30, and 40 mg/kg for 32 days.[3],[4]
Targets(IC50)	Others

Solubility Information

Solubility	DMF: 30 mg/mL (142.59 mM),Sonication is recommended. Ethanol: 30 mg/mL (142.59 mM),Sonication is recommended. DMSO: 30 mg/mL (142.59 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.7531 mL	23.7654 mL	47.5308 mL
5 mM	0.9506 mL	4.7531 mL	9.5062 mL
10 mM	0.4753 mL	2.3765 mL	4.7531 mL
50 mM	0.0951 mL	0.4753 mL	0.9506 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

Tsao, S.-M., and Yin, M.-C. In-vitro antimicrobial activity of four diallyl sulphides occurring naturally in garlic and Chinese leek oils. J. Med. Microbiol. 50(7), 646-649 (2001).
Murugavel, P., and Pari, L. Effects of diallyl tetrasulfide on cadmium-induced oxidative damage in the liver of rats. Hum. Exp. Toxicol. 26(6), 527-534 (2007).
Viry, E., Anwar, A., Kirsch, G., et al. Antiproliferative effect of natural tetrasulfides in human breast cancer cells is mediated through the inhibition of the cell division cycle 25 phosphatases. Int. J. Oncol. 38(4), 1103-1111 (2011).
Jiang, X.-Y., Zhu, X.-S., Xu, H.-Y., et al. Diallyl trisulfide suppresses tumor growth through the attenuation of Nrf2/Akt and activation of p38/JNK and potentiates cisplatin efficacy in gastric cancer treatment. Acta Pharmacol. Sin. 38(7), 1048-1058 (2017).