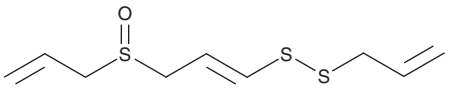
PRODUCT INFORMATION

(E)-Ajoene

Item No. 26242

CAS Registry No.:	92284-99-6
Formal Name:	2-propen-1-yl (1E)-3-(2-propen-1-ylsulfinyl)-1-propen-1-yl, disulfide
Synonym:	NSC 614554
MF:	$C_9H_{14}OS_3$
FW:	234.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 246 nm
Supplied as:	A solution in ethyl acetate
Storage:	-20°C
Stability:	≥2 years
Item Origin:	Synthetic



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

Laboratory Procedures

(E)-Ajoene is supplied as a solution in ethyl acetate. To change the solvent, simply evaporate the ethyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. (E)-Ajoene is slightly soluble in chloroform and methanol.

Description

(E)-Ajoene is a disulfide that has been found in *A. sativum* and has diverse biological activities.[1-4] It is active against Gram-positive and Gram-negative bacteria (MICs = 10-250 and 150->500 µg/ml, respectively) and fungi (MICs = 15-50 µg/ml).[1] (E)-Ajoene inhibits proliferation of a variety of cancer cells, including MDA-MB-231 breast, HeLa cervical, and WHCO1 esophageal cancer cells (IC_{50}s = 18.6, 61, and 39.2 µM, respectively).[2] It also inhibits human glutathione reductase and *T. cruzi* trypanothione reductase when used at a concentration of 200 µM.[3] (E)-Ajoene (25 mg/kg) is neuroprotective in a gerbil model of ischemia-reperfusion injury, reducing reactive astrocytosis and microgliosis in the hippocampal CA1 region.[4]

References

1. Yoshida, H., Iwata, N., Katsuzaki, H., *et al.* Antimicrobial activity of a compound isolated from an oil-macerated garlic extract. *Biosci. Biotechnol. Biochem.* **62(5)**, 1014-1017 (1998).
2. Kaschula, C.H., Hunter, R., Hassan, H.T., *et al.* Anti-proliferation activity of synthetic ajoene analogues on cancer cell-lines. *Anticancer Agents Med. Chem.* **11(3)**, 260-266 (2011).
3. Gallwitz, H., Bonse, S., Martinez-Cruz, A., *et al.* Ajoene is an inhibitor and subversive substrate of human glutathione reductase and *Trypanosoma cruzi* trypanothione reductase: Crystallographic, kinetic, and spectroscopic studies. *J. Med. Chem.* **42(3)**, 364-372 (1999).
4. Yoo, D.Y., Kim, W., Nam, S.M., *et al.* Neuroprotective effects of Z-ajoene, an organosulfur compound derived from oil-macerated garlic, in the gerbil hippocampal CA1 region after transient forebrain ischemia. *Food Chem. Toxicol.* **72**, 1-7 (2014).

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