

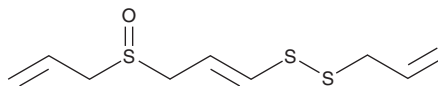
# PRODUCT INFORMATION



## (E)-Ajoene

Item No. 26242

CAS Registry No.: 92284-99-6  
Formal Name: 2-propen-1-yl (1E)-3-(2-propen-1-ylsulfanyl)-  
1-propen-1-yl, disulfide  
Synonym: NSC 614554  
MF:  $C_9H_{14}OS_3$   
FW: 234.4  
Purity:  $\geq 95\%$   
UV/Vis.:  $\lambda_{max}$ : 246 nm  
Supplied as: A solution in ethyl acetate  
Storage:  $-20^\circ C$   
Stability:  $\geq 2$  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.<sup>1-4</sup> It is active against Gram-positive and Gram-negative bacteria (MICs = 10-250 and 150->500  $\mu g/ml$ , respectively) and fungi (MICs = 15-50  $\mu g/ml$ ).<sup>1</sup> (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  $\mu M$ , respectively).<sup>2</sup> It also inhibits human glutathione reductase and *T. cruzi* trypanothione reductase when used at a concentration of 200  $\mu M$ .<sup>3</sup> (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.<sup>4</sup>

### 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).

#### 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.

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