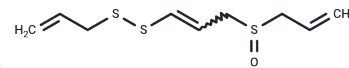


## Ajoene

## Chemical Properties

CAS No. :	92285-01-3
Formula:	C <sub>9</sub> H <sub>14</sub> O <sub>3</sub> S
Molecular Weight:	234.39
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	Ajoene is a disulfide that has been found in <i>A. sativum</i> and has diverse biological activities, including antibacterial, anticancer, antiplatelet, and antioxidant properties. It is active against Gram-positive (MICs = 5-160 µg/ml) and Gram-negative bacteria (MICs = 136-200 µg/ml), as well as yeasts (MICs = 10-20 µg/ml). Ajoene is cytotoxic to mouse melanoma cells (IC <sub>50</sub> = 18 µM), as well as human colon, lung, mammary, and pancreatic cancer cells (IC <sub>50</sub> s = 7-41 µM). It reduces tumor growth in a B16/BL6 mouse model of melanoma when administered at a dose of 25 mg/kg every other day and decreases the number of lung metastases when administered prior to tumor cell inoculation at doses ranging from 1-25 mg/kg. It inhibits ADP- or collagen-induced platelet aggregation in isolated baboon platelets when used at concentrations ranging from 75 to 150 µg/ml and in platelet-rich plasma isolated from baboons when administered at a dose of 25 mg/kg. Ajoene (25 mg/kg) prevents thrombus formation on damaged arterial walls in heparinized pigs in an <i>in situ</i> model of thrombogenesis. It also reduces high-fat diet-induced hepatic steatosis, histopathological markers of liver damage, thiobarbituric acid reactive substances (TBARS) formation, and protein oxidation in a mouse model of non-alcoholic fatty liver disease (NAFLD).
Targets(IC <sub>50</sub> )	Apoptosis, Others, Antifungal

## Solubility Information

Solubility	Methanol: Slightly soluble Chloroform: Slightly soluble Ethyl Acetate: Slightly soluble ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	4.2664 mL	21.332 mL	42.6639 mL
5 mM	0.8533 mL	4.2664 mL	8.5328 mL
10 mM	0.4266 mL	2.1332 mL	4.2664 mL
50 mM	0.0853 mL	0.4266 mL	0.8533 mL

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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

- Naganawa, R., Iwata, N., Ishikawa, K., et al. Inhibition of microbial growth by ajoene, a sulfur-containing compound derived from garlic. *Appl. Environ. Microbiol.* 62(11):4238-4242(1996)
- Taylor, P., Noriega, R., Farah, C., et al. Ajoene inhibits both primary tumor growth and metastasis of B16/BL6 melanoma cells in C57BL/6 mice. *Cancer Lett.* 239(2):298-304(2006)
- Teranishi, K., Apitz-Castro, R., Robson, S.C., et al. Inhibition of baboon platelet aggregation in vitro and in vivo by the garlic derivative, ajoene. *Xenotransplantation* 10(4):374-379(2003)
- Han, C.Y., Ki, S.H., Kim, Y.W., et al. Ajoene, a stable garlic by-product, inhibits high fat diet-induced hepatic steatosis and oxidative injury through LKB1-dependent AMPK activation. *Antioxid. Redox Signal.* 14(2):187-202(2011)
- Apitz-Castro, R., Badimon, J.J., and Badimon, L. A garlic derivative, ajoene, inhibits platelet deposition on severely damaged vessel wall in an in vivo porcine experimental model. *Thromb. Res.* 75(3):243-249(1994)

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