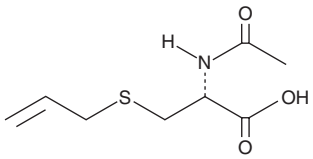
PRODUCT INFORMATION

N-Acetyl-S-allyl-L-cysteine

Item No. 17592

CAS Registry No.: 23127-41-5
Formal Name: N-acetyl-S-2-propen-1-yl-L-cysteine
MF: $C_8H_{13}NO_3S$
FW: 203.3
Purity: ≥98%
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

N-Acetyl-S-allyl-L-cysteine is supplied as a crystalline solid. A stock solution may be made by dissolving the N-acetyl-S-allyl-L-cysteine in the solvent of choice, which should be purged with an inert gas. N-Acetyl-S-allyl-L-cysteine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of N-acetyl-S-allyl-L-cysteine in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of N-acetyl-S-allyl-L-cysteine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-acetyl-S-allyl-L-cysteine in PBS, pH 7.2, is approximately 30 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-Deoxyalliin (Item No. 14014), also known as S-allyl-L-cysteine, is a water soluble organosulfur compound derived from garlic that has neuroprotective and antioxidative activities.[1,2] N-Acetyl-S-allyl-L-cysteine is a principal metabolite of L-deoxyalliin in humans, mice, rats, and dogs.[3-5] It is readily detected in plasma and urine. The conversion of L-deoxyalliin to N-acetyl-S-allyl-L-cysteine appears to be mediated by a family of flavin-containing monooxygenases.[4,6]

References

1. Kim, J.-M., Chang, H.J., Kim, W.-K., *et al.* Structure-activity relationship of neuroprotective and reactive oxygen species scavenging activities for allium organosulfur compounds. *J. Agric. Food Chem.* **54**, 6547-6553 (2006).
2. Colín-González, A.L., Santana, R.A., Silva-Islas, C.A., *et al.* The antioxidant mechanisms underlying the aged garlic extract- and S-allylcysteine-induced protection. *Oxid. Med. Cell Longev.* **2012**, (2012).
3. de Rooij, B.M., Boogaard, P.J., Rijksen, D.A., *et al.* Urinary excretion of N-acetyl-S-allyl-L-cysteine upon garlic consumption by human volunteers. *Arch. Toxicol.* **70(10)**, 635-639 (1996).
4. Krause, R.J., Glocke, S.C., and Elfarra, A.A. Sulfoxides as urinary metabolites of S-allyl-L-cysteine in rats: Evidence for the involvement of flavin-containing monooxygenases. *Drug Metab. Dispos.* **30(10)**, 1137-1142 (2002).
5. Amano, H., Kazamori, D., Itoh, K., *et al.* Metabolism, excretion, and pharmacokinetics of S-allyl-l-cysteine in rats and dogs. *Drug Metab. Dispos.* **43(5)**, 749-755 (2015).
6. Krause, R.J., Lash, L.H., and Elfarra, A.A. Human kidney flavin-containing monooxygenases and their potential roles in cysteine S-conjugate metabolism and nephrotoxicity. *J. Pharmacol. Exp. Ther.* **304(1)**, 185-191 (2003).

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