# **PRODUCT** INFORMATION



(±)-Alliin

Item No. 14001

CAS Registry No.:	17795-26-5	
Formal Name:	S-2-propen-1-yl-L-cysteine, S-oxide	
Synonym:	(±)-Allyl-L-cysteine sulfoxide	
MF:	C <sub>6</sub> H <sub>11</sub> NO <sub>3</sub> S	
FW:	177.2	
Purity:	≥98%	
Supplied as:	A crystalline solid	
Storage:	-20°C	
Stability:	≥4 years	
Information represents the product energifications. Patch energific analytical results are provide		



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

# Laboratory Procedures

(±)-Alliin is supplied as a crystalline solid. Aqueous solutions of (±)-alliin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (±)-alliin in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

# Description

Alliin is a cysteine sulfoxide constituent of garlic that is converted by alliinase to allicin, which imparts its pungent aroma and flavor.<sup>1,2</sup> Alliin exhibits anti-cancer, anti-microbial, anti-hypertensive, cardioprotective, and anti-oxidant activities.<sup>3-5</sup> It has been shown to inhibit squalene monooxygenase, a rate-limiting step in the downstream pathway of cholesterol biosynthesis, with an IC<sub>50</sub> value of 120  $\mu$ M.<sup>6,7</sup>

# References

- 1. Jones, M.G., Collin, H.A., Tregova, A., et al. The biochemical and physiological genesis of alliin in garlic. Intl. J. Biomed. Pharma. Sci. 1(1), 21-24 (2007).
- 2. Ohsumi, C., Hayashi, T., and Sano, K. Formation of alliin in the culture tissues of Allium sativum. Oxidation of S-allyl-L-cysteine. Phytochem. 33(1), 107-111 (1993).
- 3. Asdaq, S.M. and Inamdar, M.N. Potential of garlic and its active constituent, S-allyl cysteine, as antihypertensive and cardioprotective in presence of captopril. Phytomedicine 17(13), 1016-1026 (2010).
- 4. 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).
- 5. Louis, X.L., Murphy, R., Thandapilly, S.J., et al. Garlic extracts prevent oxidative stress, hypertrophy and apoptosis in cardiomyocytes: A role for nitric oxide and hydrogen sulfide. BMC Complement. Altern. Med. 12, [In press] (2012).
- 6. Bagiu, R.V., Vlaicu, B., and Butnariu, M. Chemical composition and in vitro antifungal activity screening of the Allium ursinum L. (Liliaceae). Int. J. Mol. Sci. 13, 1426-1436 (2012).
- 7. Gupta, N. and Porter, T.D. Garlic and garlic-derived compounds inhibit human squalene monooxygenase. J. Nutr. 131, 1662-1667 (2001).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

## SAFFTY 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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