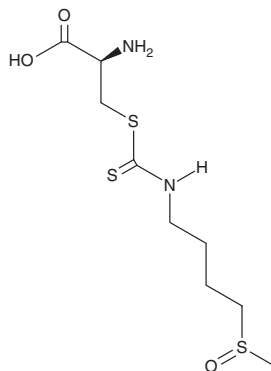


PRODUCT INFORMATION

S-(N-Methylsulfinylbutylthiocarbamoyl)-L-cysteine

Item No. 39555

CAS Registry No.: 364083-21-6
Formal Name: S-[[[4-(methylsulfinyl)butyl]amino]thioxomethyl]-L-cysteine
Synonyms: SFN-Cys, D,L-Sulforaphane-L-cysteine
MF: C₉H₁₈N₂O₃S₃
FW: 298.4
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

S-(N-Methylsulfinylbutylthiocarbamoyl)-L-cysteine (SFN-Cys) is supplied as a solid. A stock solution may be made by dissolving the SFN-Cys in the solvent of choice, which should be purged with an inert gas. SFN-Cys is slightly soluble in methanol.

SFN-Cys is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

SFN-Cys is a isothiocyanate derivative and an active metabolite of the class I and II histone deacetylase (HDAC) inhibitor and anticancer agent sulforaphane (Item Nos. 10496 | 14797).¹ It is formed from sulforaphane via DL-sulforaphane glutathione (Item No. 34731) and sulforaphane cysteinylglycine intermediates by mercapturic acid pathway enzymes. SFN-Cys (20 μM) reduces invasion and migration by U87MG and U373 MG glioblastoma cells in wound healing and chamber assays, respectively.² It decreases levels of α-tubulin, βIII-tubulin, stathmin 1, and X-linked inhibitor of apoptosis (XIAP) in, as well as reduces cell density of, paclitaxel-resistant A549 lung cancer cells (A549/T) when used at a concentration of 45 μM.³ SFN-Cys (30 μM) induces apoptosis and cell cycle arrest at the G₂/M phase in U87MG and U373 MG cells.⁴

References

1. Al Janobi, A.A., Mithen, R.F., Gasper, A.V., *et al.* Quantitative measurement of sulforaphane, iberin and their mercapturic acid pathway metabolites in human plasma and urine using liquid chromatography-tandem electrospray ionisation mass spectrometry. *J. Chromatogr. B. Analyt. Technol. Biomed. Life Sci.* **844**(2), 223-234 (2006).
2. Zhou, Y., Wang, Y., Wu, S., *et al.* Sulforaphane-cysteine inhibited migration and invasion via enhancing mitophagosome fusion to lysosome in human glioblastoma cells. *Cell. Death. Dis.* **11**(9), 819 (2020).
3. Wang, Y., Zhou, Y., Zheng, Z., *et al.* Sulforaphane metabolites reduce resistance to paclitaxel via microtubule disruption. *Cell Death Dis.* **9**(11), 1134 (2018).
4. Li, J., Zhou, Y., Yan, Y., *et al.* Sulforaphane-cysteine downregulates CDK4 /CDK6 and inhibits tubulin polymerization contributing to cell cycle arrest and apoptosis in human glioblastoma cells. *Aging (Albany N.Y.)* **12**(17), 16837-16851 (2020).

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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