# PRODUCT INFORMATION

## S-trityl-L-Cysteine

*Item No. 23236*

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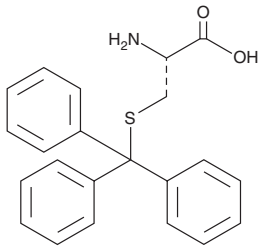
| **CAS Registry No.:** | 2799-07-7 |
| **Formal Name:** | S-(triphenylmethyl)-L-cysteine |
| **Synonym:** | NSC 83265 |
| **MF:** | $C_{22}H_{21}NO_2S$ |
| **FW:** | 363.5 |
| **Purity:** | ≥98% |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |




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

### Laboratory Procedures

S-trityl-L-Cysteine is supplied as a crystalline solid. A stock solution may be made by dissolving the S-trityl-L-cysteine in the solvent of choice. S-trityl-L-Cysteine is soluble in the organic solvent methanol, which should be purged with an inert gas. The solubility of S-trityl-L-cysteine in methanol is approximately 1 mg/ml. S-trityl-L-Cysteine is also slightly soluble in DMSO.

### Description

S-trityl-L-Cysteine is a non-natural amino acid and an inhibitor of Eg5, also known as KSP and Kif11, a mitotic kinesin necessary for mitotic spindle formation.[1] S-trityl-L-Cysteine inhibits the ATPase activity of Eg5 in basal and microtubule-stimulated states ($IC_{50}$s = 1,000 and 140 nM, respectively).[2] It is selective for Eg5 over nine other human kinesins in an enzyme-coupled assay.[1] It reversibly inhibits Eg5-driven microtubule sliding velocity with an $IC_{50}$ value of 500 nM using *X. laevis* recombinant Eg5. It induces cell cycle arrest in HeLa cells ($IC_{50}$ = 700 nM), reversibly halting the cell cycle in the mitotic phase by inhibiting the separation of duplicated chromosomes and preventing bipolar spindle formation. S-trityl-L-Cysteine inhibits the growth of cancer cells *in vitro* when tested against the National Cancer Institute (NCI) 60 human cancer cell line panel (average $GI_{50}$ = 1.3 µM) and in mouse xenograft models.[1]

### References


1. Skoufias, D.A., DeBonis, S., Saoudi, Y., *et al.* S-Trityl-L-cysteine is a reversible, tight binding inhibitor of the human kinesin Eg5 that specifically blocks mitotic progression. *J. Biol. Chem.* **281(26)**, 17559-17569 (2006).
2. DeBonis, S., Skoufias, D.A., Lebeau, L., *et al. In vitro* screening for inhibitors of the human mitotic kinesin Eg5 with antimitotic and antitumor activities. *Mol. Cancer Ther.* **3(9)**, 1079-1090 (2004).





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