

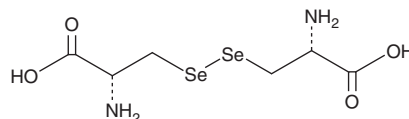
PRODUCT INFORMATION



L-Selenocystine

Item No. 17793

CAS Registry No.: 29621-88-3
Formal Name: 3,3'-diselenobis-L-alanine
Synonym: Seleno-L-cystine
MF: C₆H₁₂N₂O₄Se₂
FW: 334.1
Purity: ≥90%
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.

Description

L-Selenocystine is a diselenide-bridged amino acid that may be confused with selenocysteine (Sec), which is a rare amino acid featuring a single selenium atom. L-Selenocystine is a redox-active selenium compound that has both anti- and pro-oxidant actions.^{1,2} This compound can be reduced by low molecular thiols and disulfide reductases to Sec. It is reduced to Sec by mammalian thioredoxin reductase (apparent $K_m = 6.0 \mu\text{M}$), and this property can be used to assay thioredoxin reductase activity.^{2,3} L-Selenocystine induces an unfolded protein response, ER stress, and large cytoplasmic vacuolization in HeLa cells and has cytostatic effects in a range of cancer cell types.^{2,4}

References

1. Spallholz, J.E. On the nature of selenium toxicity and carcinostatic activity. *Free Radic. Biol. Med.* **17(1)**, 45-64 (1994).
2. Misra, S., Boylan, M., Selvam, A., *et al.* Redox-active selenium compounds—from toxicity and cell death to cancer treatment. *Nutrients* **7(5)**, 3536-3556 (2015).
3. Cunniff, B., Snider, G.W., Fredette, N., *et al.* A direct and continuous assay for the determination of thioredoxin reductase activity in cell lysates. *Anal. Biochem.* **443(1)**, 34-40 (2013).
4. Wallenberg, M., Misra, S., Wasik, A.M., *et al.* Selenium induces a multi-targeted cell death process in addition to ROS formation. *J. Cell. Mol. Med.* **18(4)**, 671-684 (2014).

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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