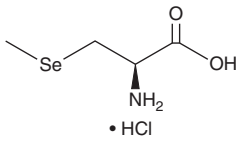
PRODUCT INFORMATION

Se-Methylselenocysteine (hydrochloride)

Item No. 32950

CAS Registry No.: 863394-07-4
Formal Name: 3-(methylseleno)-L-alanine, monohydrochloride
Synonyms: Methylselenocysteine, Se-MeSeCys, Se-methyl-L-Selenocysteine
MF: $C_4H_9NO_2Se \bullet HCl$
FW: 218.6
Purity: ≥95%
Supplied as: A crystalline 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

Se-Methylselenocysteine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the Se-Methylselenocysteine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Se-Methylselenocysteine (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of Se-Methylselenocysteine (hydrochloride) in these solvents is approximately 1 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 Se-Methylselenocysteine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of Se-Methylselenocysteine (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Se-Methylselenocysteine is a selenium-containing amino acid that has been found in *Allium* and has antioxidative and anticancer augmenting activities.[1,2] Se-Methylselenocysteine (0.01-10 µM) prevents *tert*-butyl hydroperoxide-induced increases in malondialdehyde (MDA) levels and glutathione reductase and glutathione peroxidase (GPX) activity, as well as decreases in glutathione (GSH) levels, in HepG2 cells.[1] It has an additive effect on irinotecan-induced tumor growth reduction in a FaDu mouse xenograft model when administered at a dose of 5 µg/animal per day.[2]

References

1. Cuello, S., Ramos, S., Mateos, R., *et al.* Selenium methylselenocysteine protects human hepatoma HepG2 cells against oxidative stress induced by *tert*-butyl hydroperoxide. *Anal. Bioanal. Chem.* **389(7-8)**, 2167-2178 (2007).
2. Azrak, R.G., Cao, S., Pendyala, L., *et al.* Efficacy of increasing the therapeutic index of irinotecan, plasma and tissue selenium concentrations is methylselenocysteine dose dependent. *Biochem. Pharmacol.* **73(9)**, 1280-1287 (2007).

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