



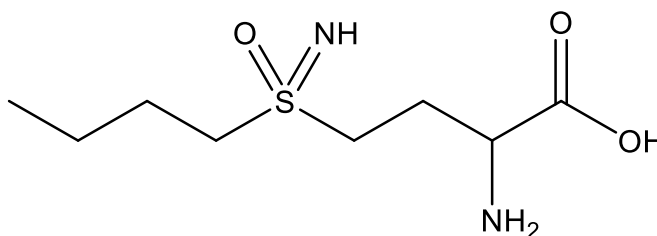
Catalog # 10-4572

D,L-Buthionine Sulfoximine

CAS# 5072-26-4

2-Amino-4-(S-butylsulfonimidoyl)butanoic acid

Lot # FBS3007



D,L-Buthionine sulfoximine is an irreversible inhibitor of γ -glutamylcysteine ligase (GCL). GCL is the first enzyme of the cellular glutathione biosynthetic pathway. Dysregulation of glutathione homeostasis is involved in many diseases including cancer, diabetes, neurodegenerative disorders and HIV/AIDS.¹ Most disease states involve decreased glutathione synthesis, however, in cancer, it is increased supporting cellular proliferation and protecting cancer cells. Pharmacological inhibition of GCL has been examined as a potential cancer treatment.²⁻⁴

- 1) Lu *et al.* (2009), *Regulation of glutathione synthesis*; Mol. Aspects Med. **30** 42
- 2) Lee *et al.* (2008), *Adaptive response to GSH depletion and resistance to L-buthionine-(S,R)-sulfoximine*; Mol. Cell Biochem. **318** 174
- 3) Li *et al.* (2016), *The effects of buthionine sulfoximine on the proliferation and apoptosis of biliary tract cancer cells induced by cisplatin and gemcitabine*; Oncol. Lett. **11** 474
- 4) Glasauer and Chandel (2014), *Targeting antioxidants for cancer therapy*; Biochem. Pharmacol. **92** 90

PHYSICAL DATA

Molecular Weight:	222.31
Molecular Formula:	C ₈ H ₁₈ N ₂ O ₃ S
Purity:	>98%
	NMR: (Conforms)
Solubility:	Water (up to 5 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in water should be made fresh daily.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.