PRODUCT INFORMATION

L-Buthionine-(S,R)-Sulfoximine
Item No. 14484

CAS Registry No.: 83730-53-4
Formal Name: 2S-amino-4-(S-butylsulfonimidoyl)-butanoic acid
Synonym: NSC 326231
MF: C_{8}H_{18}N_{2}O_{3}S
FW: 222.3
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

L-Buthionine-(S,R)-sulfoximine is supplied as a crystalline solid. Aqueous solutions of L-buthionine-(S,R)-sulfoximine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of L-buthionine-(S,R)-sulfoximine in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-Buthionine-(S,R)-sulfoximine is an irreversible inhibitor of γ-glutamylcysteine synthetase (K_{i} <100 μM), the rate-limiting enzyme for L-glutathione (GSH) synthesis, that induces oxidative stress in cells by depleting GSH.1,2 Administration of L-buthionine-(S,R)-sulfoximine leads to decreased GSH levels in virtually all tissues and is associated with tissue damage and apoptosis.3,4 Whereas elevated glutathione levels are associated with tumor cell resistance, L-buthionine-(S,R)-sulfoximine has been shown to enhance the toxicity of various chemotherapeutic agents in drug-resistant tumors.5

References