

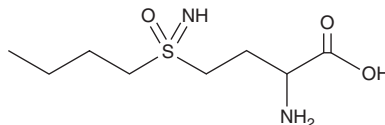
PRODUCT INFORMATION



D,L-Buthionine-(S,R)-Sulfoximine

Item No. 23691

CAS Registry No.: 5072-26-4
Formal Name: 2-amino-4-(S-butylsulfonimidoyl)-butanoic acid
Synonym: NSC 381100
MF: C₈H₁₈N₂O₃S
FW: 222.3
Purity: ≥95%
Supplied as: A 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

D,L-Buthionine-(S,R)-sulfoximine is supplied as a solid. A stock solution may be made by dissolving the D,L-buthionine-(S,R)-sulfoximine in the solvent of choice. D,L-Buthionine-(S,R)-sulfoximine is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

D,L-Buthionine-(S,R)-sulfoximine is an inhibitor of γ -glutamylcysteine synthetase that induces 100% inhibition at a concentration of 10 μ M in an enzyme assay.¹ It is selective for γ -glutamylcysteine synthetase, lacking activity at glutamine synthetase at concentrations up to 500 μ M. D,L-Buthionine-(S,R)-sulfoximine (32 mmol/kg, i.p.) reduces renal glutathione in mice without inducing abnormal behavior or convulsions. It has antiparasitic activity, eliminating *T. brucei* from the bloodstream of infected mice via depletion of intratrypanosomal glutathione and induction of oxidative stress at a dose of 4 mmol/kg.² D,L-Buthionine-(S,R)-sulfoximine is an isomeric mixture of L-buthionine-S-sulfoxime, L-buthionine-R-sulfoxime, D-buthionine-S-sulfoxime, and D-buthionine-R-sulfoxime.

References

1. Griffith, O.W. and Meister, A. Potent and specific inhibition of glutathione synthesis by buthionine sulfoximine (S-n-butyl homocysteine sulfoximine). *J. Biol. Chem.* **254(16)**, 7558-7560 (1979).
2. Arrick, B.A., Griffith, O.W., and Cerami, A. Inhibition of glutathione synthesis as a chemotherapeutic strategy for trypanosomiasis. *J. Exp. Med.* **153(3)**, 720-725 (1981).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/18/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM