

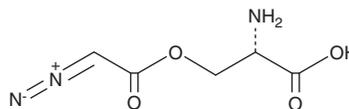
PRODUCT INFORMATION



Azaserine

Item No. 14834

CAS Registry No.: 115-02-6
Formal Name: O-(2-diazoacetyl)-L-serine
Synonyms: CI-337, CN 15757, O-Diazoacetyl-L-serine, NSC 742
MF: C₅H₇N₃O₄
FW: 173.1
Purity: ≥98%
UV/Vis.: λ_{max}: 248 nm
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.

Laboratory Procedures

Azaserine is supplied as a crystalline solid. Aqueous solutions of azaserine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of azaserine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Azaserine is a tumor-inhibiting antibiotic isolated from a species of *Streptomyces* that functions as a glutamine analog.¹⁻² At 25 μM, it inhibits the glutamine-dependent amidotransferases involved in nucleotide biosynthesis, phosphoribosylformylglycinamide synthetase and glucosamine-6-phosphate isomerase.²⁻³ Azaserine also inhibits the hexosamine biosynthetic pathway, which shunts excessive intracellular glucose into the biosynthesis of UDP-N-acetylglucosamine and the formation of O-linked glycoproteins.⁴ Azaserine has been shown to protect against hyperglycemic endothelial damage through its antioxidant effects.⁴

References

1. Wise, D.R. and Thompson, C.B. Glutamine addiction: A new therapeutic target in cancer. *Trends Biochem. Sci.* **35(8)**, 427-433 (2010).
2. Lyons, S.D., Sant, M.E., and Christopherson, R.I. Cytotoxic mechanisms of glutamine antagonists in mouse L1210 leukemia. *J. Biol. Chem.* **265(19)**, 11377-11381 (1990).
3. King, J.B., West, M.B., Cook, P.F., *et al.* A novel, species-specific class of uncompetitive inhibitors of g-glutamyl transpeptidase. *J. Biol. Chem.* **284(14)**, 9059-9065 (2009).
4. Rajapakse, A.G., Ming, X.-F., Carvas, J.M., *et al.* The hexosamine biosynthesis inhibitor azaserine prevents endothelial inflammation and dysfunction under hyperglycemic condition through antioxidant effects. *Am. J. Physiol. Heart Circ. Physiol.* **296(3)**, H815-H822 (2009).

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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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