

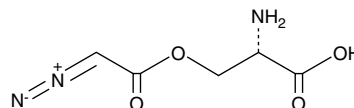
Product Information



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%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 248 nm



Laboratory Procedures

For long term storage, we suggest that azaserine be stored as supplied at -20°C. It should be stable for at least two years. Azaserine is supplied as a crystalline solid. Azaserine is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of azaserine be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of azaserine in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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 γ-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).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14834

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. 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

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 08/22/2013