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Product Information

N-Oxalylglycine
Item No. 13944

CAS Registry No.: 5262-39-5
Formal Name: N-(carboxycarbonyl)-glycine
Synonym: NOG
MF: C₄H₅NO₅
FW: 147.1
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_max: 219 nm

Laboratory Procedures

For long term storage, we suggest that N-oxalylglycine (NOG) be stored as supplied at -20°C. It should be stable for at least two years. NOG is supplied as a crystalline solid. A stock solution may be made by dissolving the NOG in the solvent of choice. NOG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of NOG in ethanol and DMSO is approximately 10 mg/ml and approximately 5 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of NOG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of NOG in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

The jumonji domain-containing protein 2 (JMJD2) subfamily of histone demethylases have been shown to catalyze demethylation of the methylated forms of histone 3 lysine 9 (H3K9) and H3K36 in vitro and in cells. Because histone demethylases are implicated in certain diseases, including cancer, selective inhibitors are candidate anticancer agents as well as potential tools for elucidating the biological functions of JMJDs.

N-Oxalylglycine, the amide analog of α-ketoglutarate, is a cell permeable inhibitor of α-ketoglutarate-dependent enzymes, including JMJD2A, JMJD2C, and JMJD2E (IC₅₀ = 250, 500, and 24 μM, respectively). It can also inhibit the prolyl hydroxylase domain-containing proteins PHD1 and PHD2 with IC₅₀ values of 2.1 and 5.6 μM, respectively.

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/13944

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

MATERIAL 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 Material 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 herein. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman Chemical’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 at the time of delivery.

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

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