

PRODUCT INFORMATION



DMOG

Item No. 71210

CAS Registry No.: 89464-63-1

Formal Name: N-(methoxyoxoacetyl)-glycine, methyl ester

Synonym: Dimethyloxallyl Glycine

MF: $C_6H_9NO_5$

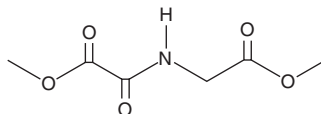
FW: 175.1

Purity: $\geq 98\%$

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥ 1 year



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

Laboratory Procedures

DMOG is supplied as a crystalline solid. A stock solution may be made by dissolving the DMOG in an organic solvent purged with an inert gas, which should be purged with an inert gas. DMOG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DMOG in these solvents is approximately 30 mg/ml.

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 DMOG can be prepared by directly dissolving the crystalline compound powder in aqueous buffers. The solubility of DMOG in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The pro-angiogenic factor HIF-1 α is targeted for destruction in normoxic environments by the hydroxylation of a specific proline residue, P564, by the oxygen-sensing enzyme HIF-1 α prolyl hydroxylase (HIF-PH).¹ DMOG is a cell permeable, competitive inhibitor of HIF-PH. It acts to stabilize HIF-1 α expression at normal oxygen tensions in cultured cells, at concentrations between 0.1 and 1 mM.¹ DMOG is therefore expected to act as a pro-angiogenic compound, acting *via* the HIF-1 α system.^{2,3}

References

1. Jaakkola, P., Mole, D.R., Tian, Y.-M., *et al.* Targeting of HIF- α to the von Hippel-Lindau ubiquitylation complex by O₂-regulated prolyl hydroxylation. *Science* **292**(5516), 468-472 (2001).
2. Bruick, R. and McKnight, S.L. A conserved family of prolyl-4-hydroxylases that modify HIF. *Science* **294**(5545), 1337-1340 (2001).
3. Ivan, M., Kondo, K., Yang, H., *et al.* HIF α targeted for VHL-mediated destruction by proline hydroxylation: Implications for O₂ sensing. *Science* **292**(5516), 464-468 (2001).

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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