

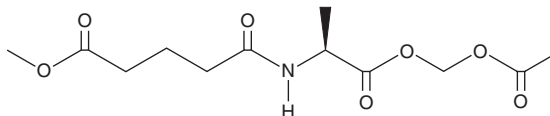
PRODUCT INFORMATION



Pro-GA

Item No. 42353

CAS Registry No.: 2222067-12-9
Formal Name: 5-[[[(1S)-2-[(acetyloxy)methoxy]-1-methyl-2-oxoethyl]amino]-5-oxopentanoic acid, methyl ester
Synonym: Pro-glutaryl Alanine
MF: C₁₂H₁₉NO₇
FW: 289.3
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

Pro-GA is supplied as a solid. A stock solution may be made by dissolving the Pro-GA in the solvent of choice, which should be purged with an inert gas. Pro-GA is soluble in DMSO.

Description

Pro-GA is a prodrug form of N-glutaryl-L-alanine and an inhibitor of γ -glutamylcyclotransferase (GGCT), an enzyme involved in glutathione metabolism.¹ It reduces the viability of RT-112 bladder cancer cells, which have a high expression of GGCT (IC₅₀ = 73.9 μ M), and UM-UC-3 and T24 bladder cancer cells (IC₅₀s = 58.5 and 57 μ M, respectively). It enhances growth inhibition induced by mitomycin C (Item No. 11435) in RT-112 cells. Pro-GA (50, 75, and 100 μ M) also inhibits the proliferation of MCF-7 breast cancer cells.² It increases the production of reactive oxygen species (ROS) and induces senescence in MCF-7 cells, effects that can be blocked by N-acetylcysteine (NAC). Pro-GA (25 mg/kg) reduces tumor weight in an MCF-7 mouse xenograft model.

References

1. Hanada, E., Kageyama, S., Murai, R., *et al.* Pro-GA, a novel inhibitor of γ -glutamylcyclotransferase, suppresses human bladder cancer cell growth. *Anticancer Res.* **39(4)**, 1893-1898 (2019).
2. Ii, H., Taniguchi, K., Yoshiya, T., *et al.* The γ -glutamylcyclotransferase inhibitor Pro-GA induces an antiproliferative effect through the generation of mitochondrial reactive oxygen species. *Anticancer Res.* **42(9)**, 4311-4317 (2022).

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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