

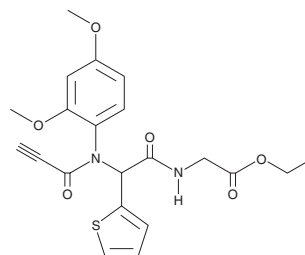
PRODUCT INFORMATION



PACMA 31

Item No. 32812

CAS Registry No.: 1401089-31-3
Formal Name: N-(2,4-dimethoxyphenyl)-N-(1-oxo-2-propyn-1-yl)-2-(2-thienyl)glycyl-glycine, ethyl ester
MF: C₂₁H₂₂N₂O₆S
FW: 430.5
Purity: ≥98%
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

PACMA 31 is supplied as a solid. A stock solution may be made by dissolving the PACMA 31 in the solvent of choice, which should be purged with an inert gas. PACMA 31 is soluble in the organic solvent DMSO at a concentration of approximately 100 mM.

Description

PACMA 31 is an irreversible inhibitor of protein disulfide isomerase (PDI; IC₅₀ = 10 μM), an endoplasmic reticulum chaperone protein that catalyzes disulfide bond breakage, formation, and rearrangement.¹ It inhibits PDI chaperone activity in a concentration- and time-dependent manner in an insulin aggregation assay and is cytotoxic to OVCAR-8 and OVCAR-3 ovarian cancer cells (IC₅₀s = 0.9 and 0.32 μM, respectively). PACMA 31 binds to GPX4 and induces ferroptosis in OVCAR-8 and HT-1080 fibrosarcoma cells.^{2,3} It also reduces tumor growth in an OVCAR-8 mouse xenograft model.¹

References

1. Xu, S., Butkevich, A.N., Yamada, R., *et al.* Discovery of an orally active small-molecule irreversible inhibitor of protein disulfide isomerase for ovarian cancer treatment. *Proc. Natl. Acad. Sci. USA* **109**(40), 16348-16353 (2012).
2. Yan, B., Ai, Y., Sun, Q., *et al.* Membrane damage during ferroptosis is caused by oxidation of phospholipids catalyzed by the oxidoreductases POR and CYB5R1. *Mol. Cell* **81**(2), 1-15 (2020).
3. Chen, Y.-C., Oses-Prieto, J.A., Pope, L.E., *et al.* Reactivity-based probe of the iron(II)-dependent interactome identifies new cellular modulators of ferroptosis. *J. Am. Chem. Soc.* **142**(45), 19085-19093 (2020).

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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