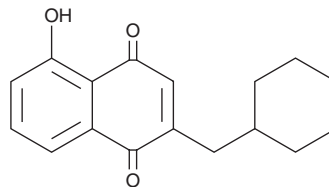


PRODUCT INFORMATION

2-(cyclohexylmethyl)-Plumbagin

Item No. 39143

CAS Registry No.: 3033734-59-4
Formal Name: 2-(cyclohexylmethyl)-5-hydroxy-1,4-naphthalenedione
MF: C₁₇H₁₈O₃
FW: 270.3
Purity: ≥95%
UV/Vis.: λ_{max}: 212 nm
Supplied as: A crystalline 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

2-(cyclohexylmethyl)-Plumbagin is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-(cyclohexylmethyl)-plumbagin in the solvent of choice, which should be purged with an inert gas. 2-(cyclohexylmethyl)-Plumbagin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 2-(cyclohexylmethyl)-plumbagin in DMF is approximately 1 mg/ml. 2-(cyclohexylmethyl)-Plumbagin is slightly soluble in ethanol and DMSO.

Description

2-(cyclohexylmethyl)-Plumbagin is a derivative of the naphthoquinone plumbagin (Item No. 14314).¹ It is selectively cytotoxic to PANC-1 human pancreatic cancer cells under nutrient-deprived conditions, which mimic the microenvironment of pancreatic cancer tumors, over PANC-1 cells under nutrient-rich conditions with 50% preferential cytotoxicity values (PC₅₀s) of 0.11 and 47.2 μM, respectively. It also induces apoptosis in PANC-1 cells when used at a concentration of 1 μM. 2-(cyclohexylmethyl)-Plumbagin also selectively reduces phosphorylation of Akt and mammalian target of rapamycin (mTOR) in PANC-1 cells under nutrient-deprived, but not nutrient-rich, conditions. It reduces tumor volume and weight in a MiaPaCa-2 pancreatic cancer mouse xenograft model when administered at doses of 50 and 250 μg/animal five times per week.

Reference

1. Awale, S., Baba, H., Phan, N.D., *et al.* Targeting pancreatic cancer with novel plumbagin derivatives: Design, synthesis, molecular mechanism, *in vitro* and *in vivo* evaluation. *J. Med. Chem.* **66**(12), 8054-8065 (2023).

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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