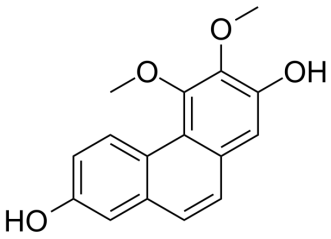
# Nudol

| | |
|---|---|
| **Cat. No.:** | HY-N7385 |
| **CAS No.:** | 86630-46-8 |
| **Molecular Formula:** | $C_{16}H_{14}O_4$ |
| **Molecular Weight:** | 270.28 |
| **Target:** | MMP; Apoptosis |
| **Pathway:** | Metabolic Enzyme/Protease; Apoptosis |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

**Description**

Nudol is a phenanthrene compound that has anti-cancer activity. Nudol inhibits cell proliferation, induces cell apoptosis. Nudol inhibits MMP-2M and MMP-9 activity ($K_i$: 988.9 nM, 1.76 μM, respectively). Nudol can be used in the research of cancers, such as osteosarcoma[1][2].

**$IC_{50}$ & Target**

| MMP-2 | MMP-9 |
|---|---|
| 988.9 nM (Ki) | 1.76 μM (Ki) |

**In Vitro**

Nudol (0-40 μM, 24-72 h) decreases cell viability in several cancer cell lines[1].
Nudol (0-20 μM, 24/48 h) suppresses the cell migration and causes cell cycle arrest at G2/M phase in U2OS cells[1].
Nudol (20 μM, 48 h) induces cell apoptosis through the caspase-dependent pathway in U2OS cells[1].
Nudol (compound 4) inhibits MMP-2 and MMP-9 activity with $K_i$ values of 988.9 nM and 1.76 μM respectively[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

| | |
|---|---|
| Cell Line: | U2OS, MG63, MDA-MB-231, MCF-7, and A549 cells |
| Concentration: | 0, 10, 20, 30, 40 μM |
| Incubation Time: | 24, 48, and 72 h |
| Result: | Decreased the cell viability of osteosarcoma cells in dose- and time-dependent manners. |

Cell Cycle Analysis[1]

| | |
|---|---|
| Cell Line: | U2OS cells |
| Concentration: | 0, 5, 10, 20 μM |
| Incubation Time: | 24, 48, and 72 h |
| Result: | Triggered G2/M phase arrest by decreasing cell cycle-related proteins (CDK1, CDK2, CDK4, and CDK10). |

Western Blot Analysis[1]

| | |
|---|---|
| Cell Line: | U2OS cells |
| Concentration: | 0, 5, 10, 20, 40 μM |
| Incubation Time: | 24, 48, and 72 h |
| Result: | Increased the protein level of cytochrome c.<br>Down-regulated anti-apoptotic Bcl-2, accompanied by an increased level of pro-apoptotic Bax. |

## REFERENCES

[1]. Yuying Zhang, et al. Nudol, a phenanthrene derivative from Dendrobium nobile, induces cell cycle arrest and apoptosis and inhibits migration in osteosarcoma cells. Drug Des Devel Ther. 2019 Jul 29;13:2591-2601.

[2]. Mohammad Al-Amin, et al. Inhibitory Effect of Dioscorea bulbifera Tubers on the Migration of Triple-Negative Breast Cancer Cells. Breast Cancer Cells. Rev. Bras. Farmacogn. 31, 335–341 (2021).



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA