

Panduratin A

Chemical Properties

CAS No. : 89837-52-5

Formula: C₂₆H₃₀O₄

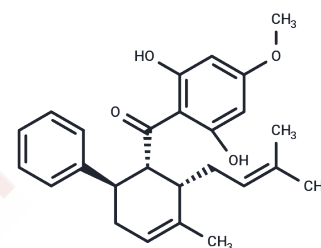
Molecular Weight: 406.51

Storage:

Store at low temperature, Keep away from moisture,
Keep away from direct sunlight

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Panduratin A is a natural chalcone derivative with inhibitory activity against MMP-9 in human oral epidermoid carcinoma KB cells; inhibitory activity against the NS3 protease of DENV-2 (K _i =25 μM); significant cytotoxicity against human androgen-independent prostate cancer cells PC-3 and DU-145; and also able to activate the LKB1-AMPK- PPARα /δ signaling pathway and enhance the oxidative capacity of myocyte mitochondria.
Targets(IC50)	Apoptosis, MMP, Antibacterial, AMPK, PPAR, Virus Protease
In vitro	Panduratin A exhibited potent antiproliferative effects in multiple human lung cancer cell lines (A549, H1299, Calu-1), with IC ₅₀ values after 72 hours of treatment being 6.26, 4.73, and 3.98 μM, respectively. In A549 cells, Panduratin A (2.5-10 μM) induced dose-dependent apoptosis, G ₀ /G ₁ arrest, mitochondrial membrane depolarization, and increased ROS levels within 48 hours. Panduratin A also suppressed activation of PI3K/AKT and MAPK pathways[1].
In vivo	In A549 xenograft-bearing mice, oral administration of Panduratin A at 25 mg/kg once daily for 14 days significantly suppressed tumor growth by approximately 55% without affecting body weight or causing observable toxicity. Tumor tissues showed increased Bax, decreased Bcl-2, and enhanced cleaved caspase-3 expression, confirming its pro-apoptotic mechanism[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.460 mL	12.2998 mL	24.5996 mL
5 mM	0.492 mL	2.460 mL	4.9199 mL
10 mM	0.246 mL	1.230 mL	2.460 mL
50 mM	0.0492 mL	0.246 mL	0.492 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Jamornwan S, Chokpanuwat T, Uppakara K, Soodvilai S, Saengsawang W. Anti-Inflammatory Activity of Panduratin A against LPS-Induced Microglial Activation. *Biomedicines*. 2022 Oct 15;10(10):2587.

Kim H, Kim C, Kook KE, Yanti, Choi S, Kang W, Hwang JK. Inhibitory Effects of Standardized *Boesenbergia pandurata* Extract and Its Active Compound Panduratin A on Lipopolysaccharide-Induced Periodontal Inflammation and Alveolar Bone Loss in Rats. *J Med Food*. 2018 Oct;21(10):961-970. doi: 10.1089/jmf.2017.4155. Epub 2018 Aug 8. PubMed PMID: 30088980.

Salama SM, Ibrahim IAA, Shahzad N, Al-Ghamdi S, Ayoub N, AlRashdi AS, Abdulla MA, Salehen N, Bilgen M. Hepatoprotectivity of Panduratin A against liver damage: In vivo demonstration with a rat model of cirrhosis induced by thioacetamide. *APMIS*. 2018 Sep;126(9):710-721. doi: 10.1111/apm.12878. Epub 2018 Jul 29. PubMed PMID: 30058214.

Lai SL, Mustafa MR, Wong PF. Panduratin A induces protective autophagy in melanoma via the AMPK and mTOR pathway. *Phytomedicine*. 2018 Mar 15;42:144-151. doi: 10.1016/j.phymed.2018.03.027. Epub 2018 Mar 15. PubMed PMID: 29655680.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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