Product Data Sheet

Product Name: Dauricine
Cat. No.: GC38182

Chemical Properties

Cas. No.	524-17-4		
SMILES	OC1=CC=C(C[C@H]2N(C)CCC3=C2C=C(OC)C(OC)=C3)C=C1OC4=CC=C(C[C@H]5N(C)CCC6=C5C=C(OC)C(OC)=C6)C=C4		
Formula	$C_{38}H_{44}N_2O_6$	M.Wt	624.77
Solubility	DMSO : 100 mg/mL (160.06 mM; Need ultrasonic)	Storage	4°C, protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Dauricine		

Protocol

Cell experiment [1]:

Cell lines	A549, H1299, A427, and Lewis Lung Carcinoma (LLC) cells (lung adenocarcinoma cell lines)
Preparation Method	A549 and H1299 cells were maintained in RPMI-1640 medium, A427 cells in Modified Eagles Medium (MEM), and LLC cells in Dulbecco's Modified Eagles Medium (DMEM), all supplemented with 10% fetal bovine serum (FBS) and 1% penicillin/streptomycin at 37°C, 5% CO_2. Cells were treated with Dauricine (5–20μM) for 24-48 hours
Reaction Conditions	5–20μM; 24-48 hours.
Applications	Dauricine significantly inhibited the proliferation and migration of lung adenocarcinoma cells, induced cell cycle arrest at the G0/G1 phase, and markedly increased intracellular reactive oxygen species (ROS) levels. Dauricine also led to the downregulation of the redox regulator Nrf2 and altered the expression of apoptosis-related markers (decreased Bcl-2, increased BAX and cleaved Caspase 3).

Animal experiment [2]:

Animal models	10-week-old female C57BL/6J mice
Preparation Method	Mice were randomly assigned to four groups and treated via intraperitoneal injection for 3 weeks. Groups received: (1) vehicle control (PBS); (2) vehicle with Dauricine (2.5mg/kg, once every two days); (3) LPS (5mg/kg, once a week); (4) LPS with Dauricine.
Dosage form	2.5mg/kg; i.p.; once every two days for 3 weeks.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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Applications	Co-treatment with Dauricine significantly prevented LPS-induced bone loss, as evidenced by increased bone mineral density (BMD), bone volume (BV/TV), and trabecular thickness (Tb.Th), and decreased trabecular separation (Tb.Sp). Dauricine also reduced the number of osteoclasts (OC.N/BS), lowered serum levels of the bone resorption marker CTX-1, the inflammatory marker MCP-1, and reactive oxygen species (ROS) elevated by LPS. Dauricine alone did not induce significant differences compared to the vehicle control.

References:
[1] Zhang YB, Fei HX, Guo J, et al. Dauricine suppresses the growth of pancreatic cancer in vivo by modulating the Hedgehog signaling pathway. Oncol Lett. 2019 Nov;18(5):4403-4414.
[2] Park HJ, Gholam Zadeh M, et al. Dauricine Protects from LPS-Induced Bone Loss via the ROS/PP2A/NF-κB Axis in Osteoclasts. Antioxidants (Basel). 2020 Jul 6;9(7):588.

Background

Dauricine is a bioactive alkaloid with anticancer properties extracted from *Menispermum dauricum DC*. Dauricine inhibits tumor cell proliferation and induces apoptosis by suppressing signaling pathways such as Hedgehog, PI3K/Akt, and Src/STAT3[1-2]. Dauricine is applicable for research in various cancers and Alzheimer's disease[3-4].

In vitro, PC9-OR and H1975-OR osimertinib-resistant lung cancer cell lines were co-treated with Dauricine (0-100μM) and osimertinib. Dauricine induced ferroptosis in the cells, significantly inhibiting their viability[5]. A549, H1299, A427, and LLC lung adenocarcinoma cells were treated with Dauricine (5–20μM) for 24–48 hours. Dauricine significantly inhibited cell proliferation and migration, induced cell cycle arrest at the G0/G1 phase, increased intracellular reactive oxygen species (ROS) levels, downregulated Nrf2 expression, and ultimately triggered apoptosis[6].

In vivo, nude mice bearing BxPC-3 pancreatic cancer xenografts were treated with daily intraperitoneal injections of Dauricine (6mg/kg and 12mg/kg) for 21 days. Dauricine significantly inhibited tumor growth without markedly affecting the spleen index[7]. Ten-week-old female C57BL/6J mice were treated with intraperitoneal injections of Dauricine (2.5mg/kg; every two days) in combination with LPS (5mg/kg; once a week) for 3 weeks. Dauricine significantly alleviated LPS-induced inflammatory bone loss[8].

References:
[1] Chen KQ, Wang SZ, Lei HB, et al. Dauricine: Review of Pharmacological Activity. Drug Des Devel Ther. 2024 Sep 27;18:4371-4385.
[2] Li L, Dai S, Liu JY, et al. Antagonistic Effect and In Vitro Activity of Dauricine on Glucagon Receptor. J Nat Prod. 2022 Aug 26;85(8):2035-2043.
[3] Zhang X, Wang T, Miao Y, et al. Dauricine exhibits anti-inflammatory property against acute ulcerative colitis via the regulation of NF-κB pathway. Cell Biochem Funct. 2023 Aug;41(6):713-721.
[4] Wang L, Pu Z, Li M, et al. Antioxidative and antiapoptosis: Neuroprotective effects of dauricine in Alzheimer's disease models. Life Sci. 2020 Feb 15;243:117237.
[5] Men B, Chen Z, Ge H, et al. Dauricine Overcomes Osimertinib Resistance in Lung Cancer by Inducing Ferroptosis via Stabilizing SAT1. Cancer Sci. 2025 Aug;116(8):2256-2269.
[6] Yousuf W, Siddiqui NZ, Ali P, et al. Dauricine Impedes the Tumorigenesis of Lung Adenocarcinoma by Regulating Nrf2 and Reactive Oxygen Species. Cells. 2025 May 12;14(10):698.
[7] Zhang YB, Fei HX, Guo J, et al. Dauricine suppresses the growth of pancreatic cancer in vivo by modulating the Hedgehog

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