Ursonic acid

Cat. No.: HY-N1486

CAS No.: 6246-46-4

Molecular Formula: $C_{30}H_{46}O_3$

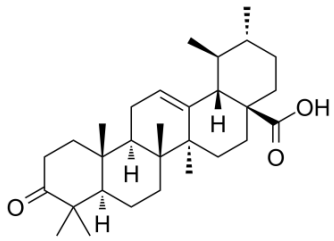
Molecular Weight: 454.68

Target: Apoptosis; Endogenous Metabolite

Pathway: Apoptosis; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (109.97 mM; ultrasonic and warming and heat to 80°C)

H_2O : 1 mg/mL (2.20 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1993 mL	10.9967 mL	21.9935 mL
5 mM	0.4399 mL	2.1993 mL	4.3987 mL
10 mM	0.2199 mL	1.0997 mL	2.1993 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ursolic acid, a naturally occurring triterpenoid, induces the apoptosis of human cancer cells through multiple signaling pathways. In vitro: Ursolic acid is important in the induction of apoptosis via AKT/NF-κB signaling suppression in T24 human bladder cancer cells and this occurs in a dose-dependent manner. Thus, Akt and NF-κB are potential targets for bladder cancer therapy and ursolic acid may serve as a naturally-occurring candidate drug for the prevention and treatment of bladder cancer.[1]Ursolic acid induce apoptosis via inhibition of NF-κB induced BCl-2 mediated anti-apoptotic pathway leading to activation of p53 induced and caspase-3 mediated pro-apoptotic pathways.[2]In vivo: UA significantly suppressed prostate tumor growth in nude mice without any significant decrease in body weight. The systemic bioavailability of UA in serum samples obtained from nude mice. UA was detected in all serum samples 24 h after last injection. Systemic bioavailability of UA was in nanogram range and metabolites of UA were not detected in the samples. These results indicate

	that UA is well absorbed in the mouse peritoneum and supports the role of UA as a potent compound for chemoprevention and therapy of prostate cancer. [3]
IC_{50} & Target	Human Endogenous Metabolite

REFERENCES

[1]. Gai, L., Cai, N., Wang, L., Xu, X. & Kong, X. Ursolic acid induces apoptosis via Akt/NF-kappaB signaling suppression in T24 human bladder cancer cells. Molecular medicine reports 7, 1673-1677, doi:10.3892/mmr.2013.1364 (2013).

[2]. Manu, K. A. & Kuttan, G. Ursolic acid induces apoptosis by activating p53 and caspase-3 gene expressions and suppressing NF-kappaB mediated activation of bcl-2 in B16F-10 melanoma cells. International immunopharmacology 8, 974-981, doi:10.1016/j.intimp.2008.02.013 (2008).

[3]. Shanmugam, M. K. et al. Ursolic acid inhibits multiple cell survival pathways leading to suppression of growth of prostate cancer xenograft in nude mice. Journal of molecular medicine 89, 713-727, doi:10.1007/s00109-011-0746-2 (2011).

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