Podocarpic acid

Cat. No.: HY-N2318

CAS No.: 5947-49-9

Molecular Formula: $C_{17}H_{22}O_3$

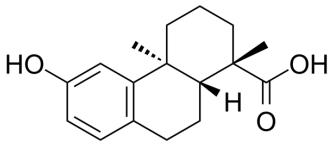
Molecular Weight: 274.35

Target: TRP Channel

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

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 : ≥ 100 mg/mL (364.50 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.6450 mL	18.2249 mL	36.4498 mL
	5 mM	0.7290 mL	3.6450 mL	7.2900 mL
	10 mM	0.3645 mL	1.8225 mL	3.6450 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: ≥ 2.08 mg/mL (7.58 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.58 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Podocarpic acid is a natural product, which has the best all-round positive effect and acts as a novel TRPA1 activator.

In Vitro

Podocarpic acid anhydride acts as a 1 nM agonist of LXRalpha and beta receptors. It shows over 8-10-fold better activator of LXR receptors compared to one of the natural ligands, 22-(R)-hydroxy cholesterol, in HEK-293 cells[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	Podocarpic acid activates SKN-1 in C. elegans, similar to known Nrf2 activators such as α-lipoic acid (LA). Podocarpic acid- or LA-induced SKN-1 activation also requires TRPodocarpic acid-1: trPodocarpic acid-1 knockdown in glod-4;gst-4p::gfp animals reduces expression of gst-4 to wild-type levels. A and LA supplementation results in a robust Ca^{2+} flux, which is significantly reduces when the Ca^{2+}-impermeable TRPodocarpic acid-1E1018A channel is present, suggesting that TRPodocarpic acid-1 activation is key for these drugs' function. Finally, Podocarpic acid and LA alleviate the Podocarpic acidthogenic phenotypes of glod-4 animals by reverting the high endogenous MGO and GO to almost wild-type-like levels[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Baraka HN. Microbial transformation of podocarpic acid and evaluation of transformation products for antioxidant activity. Planta Med. 2010 May;76(8):815-7.

[2]. Singh S, et al. Discovery and development of dimeric podocarpic acid leads as potent agonists of liver X receptor with HDL cholesterol raising activity in mice and hamsters. Bioorg Med Chem Lett. 2005 Jun 2;15(11):2824-8.

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