

Ppc-1

Chemical Properties

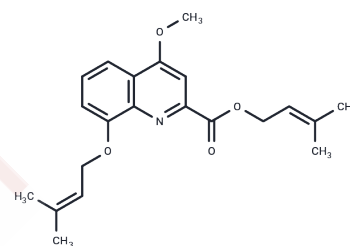
CAS No. : 1245818-17-0

Formula: C₂₁H₂₅NO₄

Molecular Weight: 355.43

Storage: 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	Ppc-1 is a chemical compound known for its inhibitory effects on the Gram-negative periodontopathogen <i>Porphyromonas gingivalis</i> . It acts as a mitochondrial uncoupler, enhancing mitochondrial oxygen consumption without affecting ATP production. Additionally, Ppc-1 serves as a cell-permeate inhibitor of interleukin-2 (IL-2). This compound exhibits various beneficial activities, including anti-obesity, antibacterial, and anti-inflammatory properties.
Targets(IC50)	Others, Mitochondrial Metabolism, Antibacterial, Interleukin
In vitro	Ppc-1 inhibits the growth of K562 cells (EC ₅₀ : 13 μM). Ppc-1 displays about 50% inhibition at 15 μM in all cell lines. Ppc-1 has antiproliferative activities in K562 human leukemia, Hela cervical carcinoma, and 3T3-L1 mouse embryonic fibroblast cells. Ppc-1 treatment (0-10 μM; 24 hours; Jurkat cells) significantly inhibits IL-2 production in Jurkat cells (IC ₅₀ : 4 μM). Using the U937-3xκB-LUC human monocytic cell line, Ppc-1 dose-dependently inhibits the lipopolysaccharide-induced NF-κB activation[2][3][4].
In vivo	Ppc-1 distributes into various tissues of individual animals at low levels after a single administration. Ppc-1 stimulates adipocytes in culture to release fatty acids, which might explain the elevated serum fatty acids in Ppc-1-treated mice. Ppc-1 (0-10 mg /kg; Intraperitoneal injection; once a week; for 8 weeks; female ICR mice) treatment inhibits weight gain with no abnormal effects on liver or kidney tissues, and no evidence of tumor formation. Serum fatty acid levels are significantly elevated in mice treated with Ppc-1, while body fat content remained low [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8135 mL	14.0675 mL	28.1349 mL
5 mM	0.5627 mL	2.8135 mL	5.627 mL
10 mM	0.2813 mL	1.4067 mL	2.8135 mL
50 mM	0.0563 mL	0.2813 mL	0.5627 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

Suzuki T, et al. Weight loss by Ppc-1, a novel small molecule mitochondrial uncoupler derived from slime mold. PLoS One. 2015 Feb 10;10(2):e0117088.

Ogura M, et al. Prenylated quinolinecarboxylic acid derivative suppresses immune response through inhibition of PAK2. Biochem Pharmacol. 2016 Apr 1;105:55-65.

Haruhisa Kikuchi a, et al. Novel prenylated and geranylated aromatic compounds isolated from Polysphondylium cellular slime molds. Tetrahedron 66 (2010) 6000-6007.

Azelmat J, et al. Antibacterial and Anti-inflammatory Activities of Ppc-1, Active Principle of the Cellular Slime Mold Polysphondylium pseudo-candidum. Med Chem. 2015;11(7):666-9.

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