

Trigonelline

Chemical Properties

CAS No. : 535-83-1

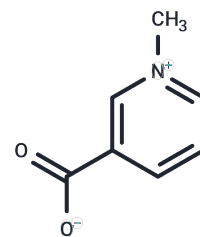
Formula: C₇H₇NO₂

Molecular Weight: 137.14

Keep away from direct sunlight

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	Trigonelline (Trigenolline), an alkaloid with potential antidiabetic activity, is present in considerable amounts in coffee.
Targets(IC50)	Apoptosis,Ferroptosis,HIV Protease,Endogenous Metabolite,Antibacterial,Antifungal
In vitro	Treatment of cells with Trigonelline attenuates H ₂ O ₂ induced cell deaths and improves the antioxidant activity. In addition, Trigonelline regulates the apoptotic gene caspase-3, caspase-9, and anti-apoptotic gene Bcl-2, Bcl-XL during H ₂ O ₂ induced oxidative stress in H9c2 cells. Trigonelline significantly reduces the H ₂ O ₂ induced necrosis and apoptosis in H9c2 cells. However, the further increment of Trigonelline concentration against H ₂ O ₂ can induce the necrosis and apoptosis along with H ₂ O ₂ [1].
In vivo	Trigonelline decreases bone mineralization and tends to worsen bone mechanical properties in streptozotocin-induced diabetic rats. Trigonelline significantly increases bone mineral density (BMD) and tends to improve cancellous bone strength in nicotinamide/streptozotocin-treated rats. Trigonelline differentially affects the skeletal system of rats with streptozotocin-induced metabolic disorders like intensify the osteoporotic changes in streptozotocin-treated rats and favorably affect bones in the non-hyperglycemic (nicotinamide/streptozotocin-treated) rats[2].

Solubility Information

Solubility	H ₂ O: 27.78 mg/mL (202.57 mM),Sonication is recommended. DMSO: 7.5 mg/mL (54.69 mM),Sonication is recommended. Ethanol: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.2918 mL	36.4591 mL	72.9182 mL
5 mM	1.4584 mL	7.2918 mL	14.5836 mL
10 mM	0.7292 mL	3.6459 mL	7.2918 mL
50 mM	0.1458 mL	0.7292 mL	1.4584 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

Ilavenil S, et al. Trigonelline protects the cardiocyte from hydrogen peroxide induced apoptosis in H9c2 cells. Asian Pac J Trop Med. 2015 Apr;8(4):263-8.

Joanna Folwarczna, et al. Effects of Trigonelline, an Alkaloid Present in Coffee, on Diabetes-Induced Disorders in the Rat Skeletal System. Nutrients. 2016 Mar; 8(3): 133.

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