

MT 63-78

Chemical Properties

CAS No. : 1179347-65-9

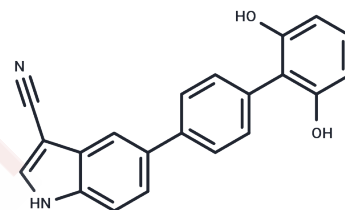
Formula: C₂₁H₁₄N₂O₂

Molecular Weight: 326.35

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	MT 63-78 is a specific and effective direct AMPK activator (EC ₅₀ : 25 μM) that blocks prostate cancer growth by inhibiting the lipogenesis and mTORC1 pathways. It has antitumor effects and induces cell mitotic arrest and apoptosis.
Targets(IC50)	Apoptosis,AMPK,mTOR
In vitro	MT 63-78 (0-50 μM; 24 hours; LNCaP, PC3, C4-4, C4-2B, CL1 and 22RV1 cells) treatment induces a reduction of anti-apoptotic Mcl-1 and an accumulation of the pro-apoptotic BH3-only protein Puma. MT 63-78 (0-50 μM; 4 days; LNCaP and PC3 cells) treatment displays a dose-dependent decrease in cell number and activation of AMPK signaling. MT 63-78 (0-50 μM; 30 minutes; LNCaP and PC3 cells) treatment shows dose-dependent phosphorylation of AMPK targets Acetyl-CoA Carboxylase (ACC) on Ser79 and Raptor on Ser792, and increases Thr172 phosphorylation on the AMPK α subunit. MT 63-78 (25 μM; 24 hours; LNCaP and CRPC cells) treatment causes significant enrichment in the G2/M population.
In vivo	MT 63-78 (30 mg/kg; intraperitoneal injection; daily; for 14 days; C57 BL/6 male mice) treatment results in a 33% inhibition of tumor growth.

Solubility Information

Solubility	DMSO: 3.27 mg/mL (10.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.06 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0642 mL	15.321 mL	30.6419 mL
5 mM	0.6128 mL	3.0642 mL	6.1284 mL
10 mM	0.3064 mL	1.5321 mL	3.0642 mL
50 mM	0.0613 mL	0.3064 mL	0.6128 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

Zadra G, et al. A novel direct activator of AMPK inhibits prostate cancer growth by blocking lipogenesis. *EMBO Mol Med.* 2014 Apr;6(4):519-38.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481