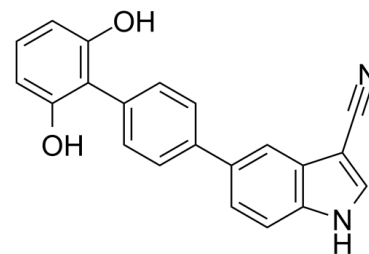


Data Sheet

Product Name:	MT 63-78
Cat. No.:	CS-0050703
CAS No.:	1179347-65-9
Molecular Formula:	C ₂₁ H ₁₄ N ₂ O ₂
Molecular Weight:	326.35
Target:	AMPK; Apoptosis; mTOR
Pathway:	Apoptosis; Epigenetics; PI3K/Akt/mTOR
Solubility:	DMSO : 125 mg/mL (383.02 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

MT 63-78 is a specific and potent direct **AMPK** activator with an **EC₅₀** of 25 μM. MT 63-78 also induces cell mitotic arrest and **apoptosis**. MT 63-78 blocks prostate cancer growth by inhibiting the lipogenesis and **mTORC1** pathways. MT 63-78 has antitumor effects^[1]. **In Vitro:** MT 63-78 (0-50 μM; 4 days; LNCaP and PC3 cells) treatment shows a dose-dependent decrease in cell number, and concomitant to the activation of AMPK signaling^[1].

MT 63-78 (25 μM; 24 hours; LNCaP and CRPC cells) treatment induces a significant enrichment in the G2/M population^[1].

MT 63-78 (0-50 μM; 24 hours; LNCaP, PC3, C4-4, C4-2B, CL1 and 22RV1 cells) treatment induces reduction of anti-apoptotic Mcl-1 in concert with accumulation of the pro-apoptotic BH3-only protein Puma^[1].

MT 63-78 (0-50 μM; 30 minutes; LNCaP and PC3 cells) treatment shows a dose-dependent phosphorylation of the two major AMPK targets Acetyl-CoA Carboxylase (ACC) on Ser79 and of Raptor on Ser792. And also increases Thr172 phosphorylation on the AMPK α subunit^[1]. **In Vivo:** MT 63-78 (30 mg/kg; intraperitoneal injection; daily; for 14 days; C57 BL/6 male mice) treatment leads to a 33% inhibition of tumor growth^[1].

References:

[1]. 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.

CAIndexNames:

1H-Indole-3-carbonitrile, 5-(2',6'-dihydroxy[1,1'-biphenyl]-4-yl)-

SMILES:

N#CC1=CNC2=C1C=C(C3=CC=C(C4=C(O)C=CC=C4O)C=C3)C=C2

Caution: Product has not been fully validated for medical applications. For research use only.

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