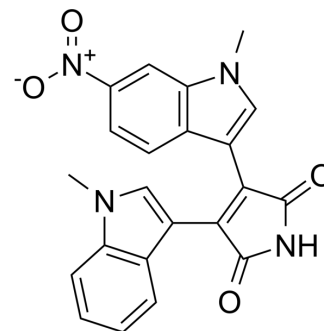


MKC-1

Cat. No.:	HY-13691		
CAS No.:	125313-92-0		
Molecular Formula:	C ₂₂ H ₁₆ N ₄ O ₄		
Molecular Weight:	400.39		
Target:	Akt; mTOR; Microtubule/Tubulin; Apoptosis		
Pathway:	PI3K/Akt/mTOR; Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis		
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 : ≥ 50 mg/mL (124.88 mM)
 * "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.4976 mL	12.4878 mL	24.9756 mL
5 mM	0.4995 mL	2.4976 mL	4.9951 mL
10 mM	0.2498 mL	1.2488 mL	2.4976 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

MKC-1 (Ro-31-7453) is an orally active and potent cell cycle inhibitor with broad antitumor activity. MKC-1 inhibits the Akt/mTOR pathway. MKC-1 arrests cellular mitosis and induces cell apoptosis by binding to a number of different cellular proteins including tubulin and members of the importin β family^{[1][2][3]}.

In Vivo

MKC-1 (200 mg/kg, orally, daily) significantly increased the median survival time (MST) of mice bearing Caki-1 renal cell xenograft tumors^[3].

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

REFERENCES

- [1]. Wang M, et al. The first design and synthesis of [11C]MKC-1 ([11C]Ro 31-7453), a new potential PET cancer imaging agent. Nucl Med Biol. 2010 Oct;37(7):763-75.
- [2]. Burke P, et al. MKC-1 significantly increases survival of mice bearing renal cell carcinoma Caki-1 xenograft tumors through inhibition of the Akt/mTOR pathway[J].

Molecular Cancer Therapeutics, 2007(12):3524S-3525S.

[3]. Faris JE, et al. A phase 2 study of oral MKC-1, an inhibitor of importin- β , tubulin, and the mTOR pathway in patients with unresectable or metastatic pancreatic cancer. Invest New Drugs. 2012 Aug;30(4):1614-20.

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

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