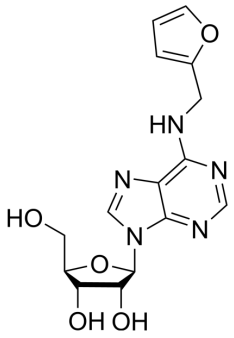
Kinetin riboside

Cat. No.:	HY-101055		
CAS No.:	4338-47-0		
Molecular Formula:	$C_{15}H_{17}N_5O_5$		
Molecular Weight:	347.33		
Target:	Apoptosis		
Pathway:	Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (719.78 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8791 mL	14.3955 mL	28.7911 mL
5 mM	0.5758 mL	2.8791 mL	5.7582 mL
10 mM	0.2879 mL	1.4396 mL	2.8791 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.99 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.99 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Kinetin riboside, a cytokinin analog, can induce apoptosis in cancer cells. It inhibits the proliferation of HCT-15 cells with an IC_{50} of 2.5 μM.

IC_{50} & Target

IC50: 2.5 μM (HCT-15 cells)[1]

In Vitro

Kinetin riboside displays antiproliferative and apoptogenic activity against various human cancer cell lines. Kinetin riboside is able to inhibit the proliferation in HCT-15 human colon cancer cells in a dose-dependent manner (IC_{50}=2.5 μM)[1]. Kinetin

	riboside induces apoptosis in HeLa and mouse melanoma B16F-10 cells. Kinetin riboside disrupts the mitochondrial membrane potential and induces the release of cytochrome c and activation of caspase-3. Bad are up-regulated while Bcl-2 is down-regulated under kinetin riboside exposure[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Kinetin riboside significantly suppresses tumor growth. The most effective anti-melanoma response is elicited at 40 mg/kg[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	HeLa and mouse melanoma B16F-10 cells are treated with 5, 10, 20 μM kinetin riboside for 48 h. 15 μL of MTT solution (5 mg/mL) is added to each well and cells are maintained for 4 h at 37°C. Hundred microlitres of solubilizing solution is then added. After an overnight incubation at room temperature, absorbance at 490 nm is measured[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	Mice: Male C57BL/6 mice are injected B16 F-10 cells. After 5 days for tumor growth, kinetin riboside (10, 20, 40 mg/kg) is injected to tumor mass directly. Drug injection is performed once a 3 days for three times. After third injection of drug, mice are kept for 3 days with no injection and tumor mass is removed from each mouse and weighed[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int J Biol Sci. 2020 Jun 27;16(13):2382-2391.
- J Pharm Biomed Anal. 4 September 2021, 114363.

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REFERENCES

[1]. Rajabi M, et al. Antiproliferative activity of kinetin riboside on HCT-15 colon cancer cell line. Nucleosides Nucleotides Nucleic Acids. 2012;31(6):474-81.

[2]. Choi BH, et al. Kinetin riboside preferentially induces apoptosis by modulating Bcl-2 family proteins and caspase-3 in cancer cells. Cancer Lett. 2008 Mar 8;261(1):37-45.

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