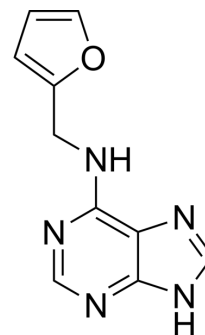


Kinetin

Cat. No.:	HY-N0160		
CAS No.:	525-79-1		
Molecular Formula:	C ₁₀ H ₉ N ₅ O		
Molecular Weight:	215.21		
Target:	SOD		
Pathway:	Immunology/Inflammation		
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 : 33.33 mg/mL (154.87 mM; Need ultrasonic)
 1M NaOH : 33.33 mg/mL (154.87 mM; Need ultrasonic)
 H₂O : < 0.1 mg/mL (ultrasonic;warming;heat to 80°C) (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	4.6466 mL	23.2331 mL	46.4662 mL
	5 mM	0.9293 mL	4.6466 mL	9.2932 mL
	10 mM	0.4647 mL	2.3233 mL	4.6466 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (11.62 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (11.62 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (11.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Kinetin (N6-furfuryladenine) belongs to the family of N6-substituted adenine derivatives known as cytokinins, which are plant hormones involved in cell division, differentiation and other physiological processes. Kinetin has anti-aging effects^[1].

In Vitro

Kinetin (N6-furfuryladenine) shows to have a direct effect on superoxide dismutase activity in plants; prevent oxidation of unsaturated acids in plant membranes; slow down development and aging in insects, by reducing their fecundity and

increasing the specific activity of catalase; and delay the onset of many age-related characteristics that appear in normal human skin fibroblasts undergoing aging in vitro. Kinetin (70-150 μ M) markedly suppressed hydroxyl radical formation by about 41% and 76%, respectively^[1].

The plant cytokinin kinetin dramatically increases exon 20 inclusion in RNA isolated from cultured familial dysautonomia (FD) cells^[2].

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

In Vivo

Kinetin (N6-furfuryladenine) (2-6 mg/kg; injection into the tail vein) effectively prevents ADP-induced acute pulmonary thrombosis in mice^[1].

Subjects received 23.5 mg/kg/d for 28 d. An increase in WT IKBKAP mRNA expression in leukocytes was noted after 8 d in six of eight individuals; after 28 d, the mean increase compared with baseline was significant^[3].

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

Animal Model:	ADP-induced acute pulmonary thrombosis 20-24 g mice (ICR strain) ^[1]
Dosage:	2, 4, 6 mg/kg
Administration:	Injection into the tail vein
Result:	Reduced mortality to 70%, 40% and 35% at 2, 4, and 6 mg/kg, respectively.

CUSTOMER VALIDATION

- Nat Plants. 2024 Jan;10(1):180-191.
- Genes Dis. 10 September 2022.
- Toxicol Appl Pharmacol. 2023 Aug 12;116655.
- Research Square Preprint. 2021 Aug.

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REFERENCES

[1]. Hsiao G, et al. Inhibitory activity of kinetin on free radical formation of activated platelets in vitro and on thrombus formation in vivo. *Eur J Pharmacol.* 2003 Apr 4;465(3):281-7.

[2]. Axelrod FB, et al. Kinetin improves IKBKAP mRNA splicing in patients with familial dysautonomia. *Pediatr Res.* 2011 Nov;70(5):480-3.

[3]. Hims MM, et al. Therapeutic potential and mechanism of kinetin as a treatment for the human splicing disease familial dysautonomia. *J Mol Med (Berl).* 2007 Feb;85(2):149-61.

[4]. Griffaut B, et al. Cytotoxic effects of kinetin riboside on mouse, human and plant tumour cells. *Int J Biol Macromol.* 2004 Aug;34(4):271-5.

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

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