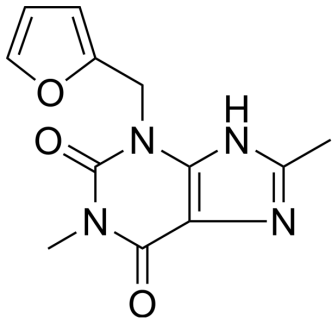
Furafylline

Cat. No.:	HY-107204
CAS No.:	80288-49-9
Molecular Formula:	$C_{12}H_{12}N_4O_3$
Molecular Weight:	260.25
Target:	Cytochrome P450
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 12.5 mg/mL (48.03 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
	1 mM	3.8425 mL	19.2123 mL	38.4246 mL
	5 mM	0.7685 mL	3.8425 mL	7.6849 mL
	10 mM	0.3842 mL	1.9212 mL	3.8425 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: ≥ 2.17 mg/mL (8.34 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (8.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Furafylline is a potent and selective inhibitor of human cytochrome P450IA2 with an IC_{50} of 0.07 μM.

IC_{50} & Target

IC50: 0.07 μM (human cytochrome P450IA2)[1]

In Vivo

Furafylline is a potent and selective inhibitor of human cytochrome P450IA2 with an IC_{50} of 0.07 μM in kinase experiment. Furafylline is a methylxanthine derivative that is introduced as a long-acting replacement for theophylline in the treatment of asthma. Administration of Furafylline is associated with an elevation in plasma levels of caffeine, due to inhibition of caffeine oxidation, a reaction catalysed by one or more hydrocarbon-inducible isoenzymes of P450. Furafylline has either very little or no effect on human monooxygenase activities catalysed by other isoenzymes of P450, including P4501ID1, P4501IC, P450IIIA[1].

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

CUSTOMER VALIDATION

- Naunyn Schmiedebergs Arch Pharmacol. 2023 Feb 27.

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REFERENCES

[1]. Sesardic D, et al. Furafylline is a potent and selective inhibitor of cytochrome P450IA2 in man. Br J Clin Pharmacol. 1990 Jun;29(6):651-63.

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