

Kukoamine A

Chemical Properties

CAS No. : 75288-96-9

Formula: C₂₈H₄₂N₄O₆

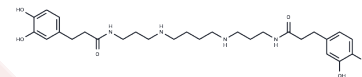
Molecular Weight: 530.66

Storage:

Keep away from moisture, Keep away from direct sunlight, Store at low temperature

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Kukoamine A possesses anticancer, cytoprotective, antioxidant, and anti-inflammatory activities, and inhibits trypanothione reductase as a mixed inhibitor (K _i = 1.8 microM).
Targets(IC ₅₀)	NF-κB, Parasite, DNA/RNA Synthesis, Lipoxygenase
In vitro	The four possible regioisomers of Kukoamine A, as well as a series of Kukoamine A analogs incorporating changes in either the SPM or the DHCA structural units, were evaluated for their antioxidant activity and their inhibitory activity on soybean lipoxygenase (LOX) and lipid peroxidation[1]. The reducing properties of the compounds were evaluated using the 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging assay and found to be in the range 5-97.5%. Kukoamine A significantly inhibits LOX with IC ₅₀ 9.5 microM. All tested analogs inhibited lipid peroxidation in the range of 11-100% [1].
In vivo	Kukoamine A has neuroprotective effects through inhibiting oxidative stress and apoptosis after whole-brain irradiation (WBI) in rats[1].

Solubility Information

Solubility	DMSO: 60 mg/mL (113.07 mM), Sonication is recommended. H ₂ O: 100 mg/mL (188.44 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (3.77 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8844 mL	9.4222 mL	18.8445 mL
5 mM	0.3769 mL	1.8844 mL	3.7689 mL
10 mM	0.1884 mL	0.9422 mL	1.8844 mL
50 mM	0.0377 mL	0.1884 mL	0.3769 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Hadjipavlou-Litina D, et al. Kukoamine A analogs with lipoxygenase inhibitory activity. *J Enzyme Inhib Med Chem*. 2009 Oct;24(5):1188-93.

Ponasik JA, et al. Kukoamine A and other hydrophobic acylpolyamines: potent and selective inhibitors of *Crithidia fasciculata* trypanothione reductase. *Biochem J*. 1995 Oct 15;311 (Pt 2):371-5.

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