Data Sheet (Cat.No.T20953)

TargetMol

Lumiflavine

Chemical Properties

CAS No. : 1088-56-8

Formula: C13H12N4O2

Molecular Weight: 256.26

Storage: Keep away from direct sunlight
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	Lumiflavine (Lumilactoflavin) inhibits riboflavin uptake. It is produced by the photolysis of vitamin B2.
Targets(IC50)	Others,Gamma-secretase
Cell Research	1. Detection of riboflavin uptake 1. Labeling and detection: First, add Lumiflavine to cultured cells or animal models. Because it shares an absorption mechanism with riboflavin, it can be absorbed by intracellular transporters, enter cells and accumulate inside cells. Then observe and analyze its fluorescence signal through a fluorescence microscope or fluorescence detector, thereby indirectly reflecting the cell's riboflavin uptake. 2. Cell experiment: Lumiflavine can competitively bind to intracellular riboflavin to help study the cell's ability to absorb vitamin B2. By comparing the effects of Lumiflavine with other known riboflavin uptake agents, the activity of transporters and the bioavailability of vitamin B2 can be evaluated. 2. For biochemical research Lumiflavine can be used to study enzymes or pathways related to vitamin B2 metabolism. It can be used as an indicator of vitamin B2 metabolism, transport and deficiency status for the study of metabolic pathology. 3. Drug development Lumiflavine can be used as a drug screening tool for studying vitamin B2 deficiency. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	0.1 M NaOH: 10 mg/mL (39.02 mM),Sonication is recommended. DMSO: Slightly soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9023 mL	19.5114 mL	39.0229 mL
5 mM	0.7805 mL	3.9023 mL	7.8046 mL
10 mM	0.3902 mL	1.9511 mL	3.9023 mL
50 mM	0.078 mL	0.3902 mL	0.7805 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

Mang'era CM, et al. Transcriptomic response of Anopheles gambiae sensu stricto mosquito larvae to Curry tree (Murraya koenigii) phytochemicals. Parasit Vectors. 2021 Jan 2;14(1):1.
Salzmann S, et al. Influence of the LOV domain on low-lying excited states of flavin: a combined quantum-mechanics/molecular-mechanics investigation. J Phys Chem B. 2009 Nov 26;113(47):15610-8.
Scheurer M, Herbst MF, Reinholdt P, Olsen JMH, Dreuw A, Kongsted J. Polarizable Embedding Combined with the Algebraic Diagrammatic Construction: Tackling Excited States in Biomolecular Systems. J Chem Theory Comput. 2018 Sep 11;14(9):4870-4883. doi: 10.1021/acs.jctc.8b00576. Epub 2018 Aug 22. PubMed PMID: 30086234.
Kar RK, Borin V, Ding Y, Matysik J, Schapiro I. Spectroscopic Properties of Lumiflavin: A Quantum Chemical Study. Photochem Photobiol. 2018 Sep 26. doi: 10.1111/php.13023. [Epub ahead of print] PubMed PMID: 30257038.