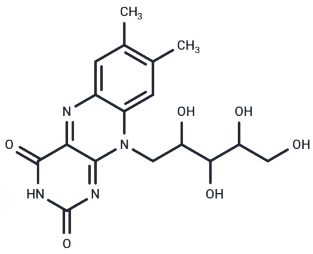
Data Sheet (Cat.No.T0937)

TargetMol

Riboflavin

Chemical Properties



CAS No. : 83-88-5

Formula: C17H20N4O6

Molecular Weight: 376.36

Storage: Keep away from direct sunlight,Keep away from moisture
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	Riboflavin (Vitamin B2) is a natural product, an endogenous human metabolite, and a micronutrient. Riboflavin is essential for the formation of two major coenzymes, flavin mononucleotide and flavin adenine dinucleotide. Riboflavin is involved in energy metabolism, cellular respiration, and antibody production, as well as normal growth and development.
Targets(IC50)	Endogenous Metabolite,Antibacterial
In vitro	**METHODS**: Rat pancreatic islet cells were treated with Riboflavin (10 μM) for 3 days and cell viability was measured by Trypan blue assay. **RESULTS**: Riboflavin supplementation had no effect on the viability of HEK293T17 cells. [1] **METHODS**: Rainbow trout gonadal cells RTG-2 were treated with Riboflavin (10 μM) for 24 h. Islet number was measured by DTZ staining. **RESULTS**: Riboflavin-treated islets had modest but statistically significantly higher recovery rates of 75.2±1.6% and 69.3±2.0%, respectively. [2]
In vivo	**METHODS**: To investigate the effects on LPS-induced shock in mice, Riboflavin (1-10 mg/kg) was injected intraperitoneally into BALB/c mice, followed by LPS. **RESULTS**: High doses of Riboflavin reduced LPS-induced mortality by increasing HSP25 expression. [3]

Solubility Information

Solubility	DMSO: 3.77 mg/mL (10.02 mM),Sonication and heating are recommended. H2O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.657 mL	13.2852 mL	26.5703 mL
5 mM	0.5314 mL	2.657 mL	5.3141 mL
10 mM	0.2657 mL	1.3285 mL	2.657 mL
50 mM	0.0531 mL	0.2657 mL	0.5314 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

Novakova Z, et al. Heterologous expression and purification of recombinant human protoporphyrinogen oxidase IX: A comparative study. PLoS One. 2021 Nov 18;16(11):e0259837.

Shang M, Ning J, Zang C, et al.FLZ attenuates Parkinson's disease pathological damage by increasing glycoursodeoxycholic acid production via down-regulating Clostridium innocuum.Acta Pharmaceutica Sinica B. 2024

Cobianchi L, et al. Riboflavin inhibits IL-6 expression and p38 activation in islet cells. Cell Transplant. 2008;17(5): 559-66.

Shih CK, et al. Riboflavin protects mice against liposaccharide-induced shock through expression of heat shock protein 25. Food Chem Toxicol. 2010 Jul;48(7):1913-8.

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