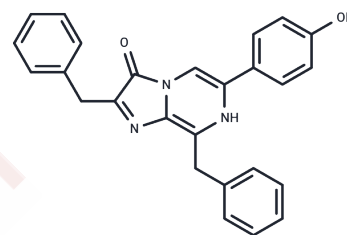


Coelenterazine h

Chemical Properties

CAS No. :	50909-86-9
Formula:	C ₂₆ H ₂₁ N ₃ O ₂
Molecular Weight:	407.46
Storage:	Powder: -20°C for 3 years Actual storage temperature shall be subject to the COA.



Biological Description

Description	Coelenterazine h is a dehydroxy derivative of natural coelenterazine and serves as a luminescent substrate for RLuc8. Coelenterazine h is Ca ²⁺ -sensitive, making it an effective tool for measuring minute changes in Ca ²⁺ concentration. Coelenterazine h is widely used in cell biology, molecular biology, drug discovery, and in vivo imaging.
Targets(IC50)	Others, Calcium Channel
In vitro	<p>Methods: In BRET sensor (BRAC) studies, Coelenterazine-h (20 μM in vitro, 10 μM in cells) serves as the substrate for RLuc8, initiating the BRET signaling chain for real-time monitoring of Ca²⁺ binding kinetics. Changes in Venus (530 nm) emission were recorded at a high frequency of 1 kHz via stop-and-go spectroscopy.</p> <p>Results: The Ca²⁺ dissociation time constant τ_{off} = 0.21 s was successfully resolved, approximately 14 times faster than conventional FRET indicators. [1]</p> <p>Methods: C6 (rat glioma) cells were transfected with pCMV-RLuc plasmid. Cell lysates were obtained 48 hours post-transfection. Cell lysates were mixed with Coelenterazine h (0.1, 1, 10, 50, 100, 200 μg/mL) and measured for 10 seconds. A luminometer recorded RLU/mg protein.</p> <p>Results: Luminescence increased with Coelenterazine h concentration, peaking at 50 μg/mL, then decreased at higher doses. [2]</p> <p>Methods: Human breast cancer cells (MCF-7) were treated with RLuc8.6-KR-LP (10 μM) for 24 hours, followed by Coelenterazine h (150 μM) for an additional 24 hours. Analysis included fluorescence microscopy (DAPI staining for live cells, SYTOX Green for dead cells, KR red fluorescence tracing) and flow cytometry quantification.</p> <p>Results: The RLuc8.6-KR-LP + Coelenterazine H group exhibited substantial cell death, with KR red fluorescence localized to the cell membrane. [3]</p>
In vivo	<p>Methods: C6-RLuc cells (1×10⁶) were injected into the mouse tail vein (cells naturally homed to liver/lung). Coelenterazine h (2.8 mg/kg) was administered via tail vein injection 90 minutes after cell injection. Imaging was performed using a cooled CCD camera for 7-10 minutes. Following euthanasia, tissue homogenates were collected and verified using a luminometer.</p> <p>Results: Signals were detectable in the chest and upper abdomen (liver/lung regions), peaking at 5 minutes and decaying between 7-10 minutes. Tissue homogenate analysis confirmed signals primarily originated from the lungs. [2]</p> <p>Methods: NOD SCID-γ immunodeficient mice subcutaneously implanted with MDA-MB-231 human breast cancer cells. Three intra-tumoral injections of RLuc8.6-KR-LP (1 nmol)</p>

In vivo	were administered via intratumoral injection. Coelenterazine h (5 µg) was injected subcutaneously on the second day after protein injection. Tumor volume was measured 2-3 times weekly. Results: Rluc8.6-KR-LP + Coelenterazine h significantly inhibited tumor growth, with an average volume of 127 mm ³ on day 34.[3]
---------	--

Solubility Information

Solubility	DMSO: 237.5 mg/mL (582.88 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4542 mL	12.2711 mL	24.5423 mL
5 mM	0.4908 mL	2.4542 mL	4.9085 mL
10 mM	0.2454 mL	1.2271 mL	2.4542 mL
50 mM	0.0491 mL	0.2454 mL	0.4908 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

- Saito K, et al. Auto-luminescent genetically-encoded ratiometric indicator for real-time Ca²⁺ imaging at the single cell level. PLoS One. 2010 Apr 1;5(4):e9935.
- Bhaumik S, Gambhir SS. Optical imaging of Renilla luciferase reporter gene expression in living mice. Proc Natl Acad Sci U S A. 2002 Jan 8;99(1):377-82.
- Kim EH, Park S, Kim YK, Moon M, Park J, Lee KJ, Lee S, Kim YP. Self-luminescent photodynamic therapy using breast cancer targeted proteins. Sci Adv. 2020 Sep 11;6(37):eaba3009.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481