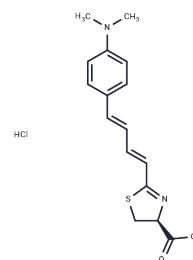


AkaLumine hydrochloride

Chemical Properties

CAS No. :	2558205-28-8
Formula:	C ₁₆ H ₁₉ ClN ₂ O ₂ S
Molecular Weight:	338.85
Storage:	Store at low temperature, Keep away from direct sunlight, Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	AkaLumine hydrochloride is a fluorescein analog with a Km value of 2.06 μ M for recombinant fluorescent protein.
Targets(IC50)	Others
In vitro	In both LLC/luc and MDA-MB-231/Luc cells exposed to AkaLumine hydrochloride, the signal peaks at lower concentrations (starting from 2.5 μ M). Conversely, the bioluminescence produced by D-luciferin and CycLuc1 continuously increases with concentration, without reaching saturation, even at 250 μ M.[1]
In vivo	AkaLumine hydrochloride-treated mice 15 min after intravenous injection of LLC/luc cells at the dose of 5 mM, exhibit a 3.3-fold increase in detection sensitivity of disseminated cancer cells in the lung compared with the experimental control group. In the inverse order at an 8 h interval. AkaLumine hydrochloride displays about a fourfold increase in signals from lung metastasis compared with the experimental control group. [1]
Animal Research	<p>Instructions</p> <p>I. Solution preparation</p> <ol style="list-style-type: none"> 1. Stock solution preparation Dissolve AkaLumine hydrochloride in deionized water or dimethyl sulfoxide (DMSO). 2. Working solution preparation: Prepare a stock solution of no more than 50 mg/mL, with a common concentration of 40 mg/mL. For example, 40 mg AkaLumine hydrochloride can be dissolved in 1 mL deionized water or DMSO. <p>Notes: Storage: It is recommended to prepare and use immediately; if storage is required, it should be stored at low temperature to ensure stability.</p> <p>II. In vivo imaging:</p> <ol style="list-style-type: none"> 1. Administration: Inject the prepared AkaLumine hydrochloride solution into experimental animals by intraperitoneal injection. 2. Dosage: The specific dose is adjusted according to the experimental situation, generally ranging from 50-200 mg/kg. 3. Imaging: After injection, use an imaging system that can detect NIR luminescence for bioluminescence imaging.

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Animal Research	The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.
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Solubility Information

Solubility	DMSO: 120 mg/mL (354.14 mM),Sonication is recommended. H2O: 25 mg/mL (73.78 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: 5 mg/mL (14.76 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	2.9512 mL	14.7558 mL	29.5116 mL
5 mM	0.5902 mL	2.9512 mL	5.9023 mL
10 mM	0.2951 mL	1.4756 mL	2.9512 mL
50 mM	0.059 mL	0.2951 mL	0.5902 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

- Zhou M, et al. Generation of an Akaluc knock-in human embryonic stem cell reporter line using CRISPR-Cas9 technology. *Stem Cell Res.* 2021 Oct;56:102532.
- Ogawa H, et al. Absorption Spectra for Firefly Bioluminescence Substrate Analog: TokeOni in Various pH Solutions. *Photochem Photobiol.* 2021 Sep;97(5):1016-1022.
- Kim GB, et al. Rapid Generation of Somatic Mouse Mosaics with Locus-Specific, Stably Integrated Transgenic Elements. *Cell.* 2019 Sep 19;179(1):251-267.e24.
- Hendrickx S, et al. Comparison of Bioluminescent Substrates in Natural Infection Models of Neglected Parasitic Diseases. *Int J Mol Sci.* 2022;23(24):16074.

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