Cypate

Cat. No.: HY-D1719

CAS No.: 95837-47-1

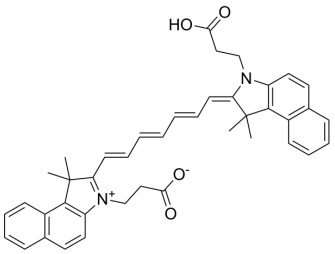
Molecular Formula: $C_{41}H_{40}N_2O_4$

Molecular Weight: 624.77

Target: Fluorescent Dye

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Cypate, a cyanine dye, is a near infrared (NIR) fluorescent probe for in vivo tumor imaging[1][2].

In Vitro

Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).
1.Plated 1×10^6 of each cell type on individual 35-mm glass-bottom petri dishes.
2.After 24 hours, the cell lines are incubated for 2 hours with a 10 μM solution of Cypate in phenol red free medium.
3.After treatment, the cells are either washed 3× with PBS and fixed with 4% paraformaldehyde for imaging or has their intracellular Cypate contents collected for spectroscopy and/or LC-MS analysis.
4.Confocal microscopy is performed on in vitro cell culture experiments. Cypate is excited with 647 nm wavelength[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Cypate (10 nmol; IV; every 24 hours for 6 days) causes the liver to have the highest accumulation[1].
The fluorescence signal of Cypate (5 mg/kg; IV) in the tumor of mice (Balb/c mice with 4T1 cells) is weak and quickly decayed, possibly due to fast elimination of free cypate from body. Stronger fluorescence in liver and kidney is observed in free cypate group. The Cypate fluorescence signal is assessed using an IVIS Lumina imaging system (Ex-745 nm; Em-800 nm)[2].
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Animal Model:	Foxn1nu/Foxn1nu nude 2.5-month-old female mice with breast cancer cells (MDA-MB-231 Luc2)[1]
Dosage:	10 nmol in 100 μL PBS
Administration:	IV; every 24 hours for 6 days
Result:	The accumulation alone in the tumor was negligible for 24 hours after the injection. The liver had the highest accumulation at all time points.

REFERENCES

[1]. Mona Doshi, et al. Cypate and Cypate-Glucosamine as Near-Infrared Fluorescent Probes for In Vivo Tumor Imaging. Mol Pharmacol. 2019 May;95(5):475-489.

[2]. Yuanyuan Li, et al. Light-Decomposable Polymeric Micelles with Hypoxia-Enhanced Phototherapeutic Efficacy for Combating Metastatic Breast Cancer. Pharmaceutics. 2022 Jan 21;14(2):253.

Caution: Product has not been fully validated for medical applications. For research use only.

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