Fluorescein di(β-D-galactopyranoside)

Cat. No.: HY-101895

CAS No.: 17817-20-8

Molecular Formula: $C_{32}H_{32}O_{15}$

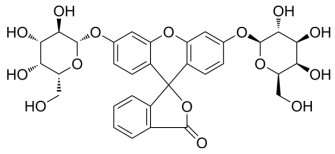
Molecular Weight: 656.59

Target: Fluorescent Dye

Pathway: Others

Storage: -20°C, protect from light

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5.56 mg/mL (8.47 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.5230 mL	7.6151 mL	15.2302 mL
	5 mM	0.3046 mL	1.5230 mL	3.0460 mL
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.56 mg/mL (0.85 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.56 mg/mL (0.85 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fluorescein di(β-D-galactopyranoside) is a fluorogenic substrate for β-galactosidase (λ_{ex}=485 nm, λ_{em}=535 nm).

In Vitro

The fluorescence produced by Fluorescein di(β-D-galactopyranoside) increases in a time- and dose-dependent manner. The level of fluorescence produced by the double-substrate method is much lower than that by the Fluorescein di(β-D-galactopyranoside) method. Results show that the fluorescein produced by Fluorescein di(β-D-galactopyranoside) in Hs68 cells is proportional to the number of passages[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	The cells (5×10^3 cells per well) are cultured in a 96-well plate overnight for attachment, washed, and then fixed in solutions. An aliquot (100 μL) of the reaction buffer (i.e., the staining solution without X-Gal) is added into each well. Then, 10 μL of 2 mM Fluorescein di(β-D-galactopyranoside) is added per well and the plate is incubated in the dark at 37°C for 24 h without CO_2 supply. After incubation at 37°C for 24 h, 100 μL of the supernatant is transferred to a 96-well plate for fluorescent measurement in triplicates. The fluorescein fluorescence is measured using a fluorometer with an excitation at 485 nm and an emission at 535 nm[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- ACS Nano. 2021 Jul 29.
- Nat Commun. 2023 Dec 5;14(1):7699.
- ACS Appl Mater Interfaces. 2022 Feb 24.

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REFERENCES

[1]. Yang NC, et al. A fluorimetric method using fluorescein di-beta-D-galactopyranoside for quantifying the senescence-associated beta-galactosidase activity in human foreskin fibroblast Hs68 cells. Anal Biochem. 2004 Feb 15;325(2):337-43.

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