CY3-SE

Cat. No.: HY-D0823

CAS No.: 146368-16-3

Molecular Formula: $C_{35}H_{41}N_3O_{10}S_2$

Molecular Weight: 727.84

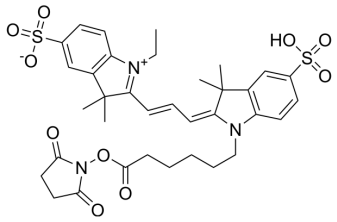
Emission (Em): 570

Excitation(Ex): 550

Target: Fluorescent Dye

Pathway: Others

Storage: -20°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (68.70 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3739 mL	6.8696 mL	13.7393 mL
	5 mM	0.2748 mL	1.3739 mL	2.7479 mL
	10 mM	0.1374 mL	0.6870 mL	1.3739 mL

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: ≥ 2.5 mg/mL (3.43 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cy3-SE (Sulfo-Cy3 NHS ester; Sulfo Cyanine3 NHS ester) is a sulfonated cyanine dye-derived fluorescent labeling reagent with λ_{ex} of about 515 nm and λ_{em} of about 568 nm. Cy3-SE can interact with the π-π stacking of biomolecules (e.g., nucleoside monophosphates, proteins), inhibiting the photoisomerization process and increasing the fluorescence quantum yield and lifetime[1][2].

In Vitro

In the presence of nucleoside monophosphates (dNMPs) in solution, Cy3-SE inhibits photoisomerization through π-π stacking interactions, significantly increasing the fluorescence efficiency and lifetime. It has a better enhancement effect on purines (dAMP, dGMP) than on pyrimidines (dCMP, dTMP)[1].

Operation steps example[2]

1. Dissolution: Dissolve Cy3-SE in N,N-dimethylformamide (DMF) or other suitable organic solvents to prepare a stock solution;
2. Reaction: Dissolve the target molecule (e.g., peptide, antibody) in a buffer solution (e.g., 5 mM PBS, pH 8.0), add an equimolar or excess amount of Cy3-SE solution, and react at room temperature in the dark for 4-6 hours;
3. Purification: Remove unreacted Cy3-SE by dialysis (molecular weight cutoff 2000 Da) or high performance liquid chromatography (HPLC), and collect the labeled product.

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

REFERENCES

[1]. Harvey BJ, et al. Nucleobase-specific enhancement of Cy3 fluorescence. J Fluoresc. 2009 May;19(3):443-8.

[2]. Dang YQ, et al. Construction of a supramolecular Förster resonance energy transfer system and its application based on the interaction between Cy3-labeled melittin and phosphocholine encapsulated quantum dots. ACS Appl Mater Interfaces. 2012 Mar;4(3):1267-72.

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