Data Sheet (Cat.No.T212669)

TargetMol

CY7-SE triethylamine

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	CY7-SE triethylamine is a type of CY dye. CY stands for cyanine, which is a compound formed by two nitrogen atoms linked by an odd number of methine units. Cyanine compounds are known for their long wavelengths, adjustable absorption and emission, high extinction coefficients, good water solubility, and relatively simple synthesis. CY series dyes are commonly used for labeling proteins, antibodies, and small molecule compounds. For protein and antibody labeling, they can be conjugated through straightforward mixing reactions. Below, we detail a method for labeling proteins and antibodies, which can serve as a useful reference.
Targets(IC50)	Others
In vitro	Operation Guide (for reference only) 1. Protein Preparation: First, adjust the protein (antibody) concentration to 2 mg/mL to achieve the best labeling effect. Ensure that the pH of the protein solution remains within 8.5 ± 0.5. If it is lower than 8.0, adjust it with 1M sodium bicarbonate. If the protein concentration is less than 2 mg/mL, the labeling efficiency will significantly decrease. Therefore, it is recommended that the final protein concentration be 2-10 mg/mL. Use a buffer without primary amines (such as Tris or glycine), and avoid the presence of ammonium ions to avoid affecting the labeling effect. 2. Dye Preparation: Take CY3-NHS ester as an example. Add anhydrous DMSO to the CY3-NHS ester vial to prepare a 10 mM stock solution, and mix it evenly using a pipette or vortex. 3. Calculation of Dye Dosage: The amount of CY3-NHS ester required is based on the amount of the protein to be labeled and takes the optimal molar ratio of CY3-NHS to be approximately 10. Example: Dissolve 1 mg of CY3-NHS ester in 100 μL DMSO in 500 μL of 2 mg/mL IgG (MW = 150,000), and the result is that the volume of CY3-NHS ester is 5.05 μL. The specific calculation is as follows: 1) mmol (IgG) = 2 mg/mL × 0.5 mL / 150,000 mg/mmol = 6.7×10^{-6} mmol; 2) mmol (CY3-NHS ester) = 6.7×10^{-6} mmol × 10 = 6.7×10^{-5} mmol; 3) μL (CY3-NHS ester) = 6.7×10^{-5} mmol × 753.88 mg/mmol / 0.01 mg/μL = 5.05 μL. 4. Running the Coupling Reaction: Slowly add the freshly prepared 10 mg/mL CY3-NHS ester to 0.5 mL of the protein sample, gently shake to mix, and briefly centrifuge to collect at the bottom of the reaction tube to avoid homogenization and protein sample denaturation and inactivation. The reaction tube should be placed in a dark place, incubated at room temperature for 10-15 minutes, and gently incubated for 60 minutes to reverse the reaction. 5. Purification of the Coupling Product: The following steps use a SepHadex G-25 column for purification. 1) Prepare the SepHadex G-25 column according to the manufacturing instructions; 2) Load the reaction mixture onto

In vitro	the top of the SepHadex G-25 column; 3) After the sample enters the resin surface, immediately add PBS (pH 7.2-7.4); 4) Continue to add PBS (pH 7.2-7.4) to complete the column purification, and combine the desired dye-protein coupling fractions. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

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