Data Sheet (Cat.No.T209548)

TargetMol

Vari Fluor 565 SE

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from direct sunlight
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Vari Fluor 565 SE (VF 565 SE) is a labeling dye from the Vari Fluor SE series, with excitation/emission wavelengths of 563 nm and 594 nm, respectively. These dyes contain an NHS ester group, making them suitable for labeling antibodies, proteins, peptides, amine-modified oligonucleotides, and other biomolecules with free amines (-NHX).
Targets(IC50)	Others
In vitro	Preparation of the Original Solution: 1. Protein Preparation: For optimal labeling, prepare protein (antibody) at a concentration of 2 mg/mL. 1) Ensure the protein solution has a pH of 8.5±0.5. If the pH is below 8.0, adjust it using 1 M sodium bicarbonate. 2) Protein concentrations under 2 mg/mL significantly decrease labeling efficiency; for best results, maintain a final protein concentration between 2-10 mg/mL. 3) The protein must be in a buffer free of primary amines (such as Tris or glycine) and ammonium ions to prevent interference with labeling efficiency. 2. Dye Preparation: Dissolve VF dye in anhydrous DMSO to make a 10 mg/mL stock solution. Mix thoroughly using a pipette or vortex. Note: Store the VF stock solution in aliquots at -20 ℃ or -80 ℃, protected from light. 3. Calculation of Dye Working Solution Amount: The required amount of VF dye for the labeling reaction depends on the protein amount, with an optimal dye-to-protein molar ratio of approximately 10. Example: For 500 µL 2 mg/mL IgG (MW=150,000), dissolve 1 mg VF dye in 100 µL DMSO, requiring 3.95 µL VF, as calculated below (using VF 488 as an example): 1) mmol (IgG) = mg/mL (IgG) × mL (IgG) / MW (IgG) = 2 mg/mL × 0.5 mL / 150,000 mg/mmol = 6.7×10^-6 mmol 2) mmol (VF 488) = mmol (IgG) × 10 = 6.7 ×10^-6 mmol × 10 = 6.7×10^-5 mmol 3) µL (VF 488) = mmol (VF 488) × MW (VF 488) / mg/µL (VF 488) = 6.7×10^-5 mmol × 834 mg/mmol / 0.01 mg/µL = 5.6 µL (VF 488). Instructions: 1. Labeling Reaction: 1) Gradually add the freshly prepared 10 mg/mL VF dye to 0.5 mL of protein sample solution, gently shake to mix, and briefly centrifuge to collect samples at the reaction tube bottom. Avoid vigorous mixing to prevent denaturation. 2) Incubate the reaction tube in the dark at room temperature for 60 minutes, gently inverting every 10-15 minutes for thorough mixing. 2. Protein Purification and Desalting: Follow the example procedure using a Sephadex G-25 column. 1) Prepare the column according to the manufacturer's instructions. 2) Load the reaction mixture onto the Sephadex G-25 column. 3) When the sample moves just below the resin surface, add PBS (pH 7.2-7.4). 4) Complete column purification by adding more PBS, collecting fractions containing the desired dye-protein conjugate. Storage

In vitro	Conditions: Store at -20℃, protected from light. Precautions: 1. VF dye is sensitive to light and moisture. Prepare VF solutions as needed and discard unused portions. 2. Low concentrations of sodium azide (≤3 mM or 0.02%) or thimerosal (≤0.02 mM or 0.01%) do not significantly interfere with protein labeling; however, 20-50% glycerol can reduce efficiency. 3. Avoid buffers containing primary amines (e.g., Tris, glycine) or ammonium ions, as they compete with the target protein, reducing labeling efficiency. 4. This product is for scientific research by professionals only, not for clinical diagnosis or treatment, nor for food or drug use. 5. For safety, wear lab coats and disposable gloves during handling. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

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