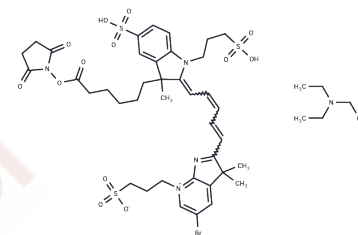


Alexa Fluor 680 NHS ester diTEA

Chemical Properties

CAS No. :	407628-16-4
Formula:	C45H62BrN5O13S3
Molecular Weight:	1057.10
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Alexa Fluor 680 NHS ester (Alexa Fluor 680 succinimidyl ester) diTEA is a near-infrared (NIR) fluorescent dye. The NHS ester functional group allows it to label proteins, amine-modified oligonucleotides, and other primary amine-containing molecules (R-NH ₂) with excitation/emission wavelengths of 679/702 nm.
Targets(IC50)	Others
In vitro	<p>Protocol 1. Protein Preparation: To achieve optimal labeling, prepare the protein (antibody) concentration at 2 mg/mL. Ensure the pH of the protein solution is 8.5±0.5; if below 8.0, adjust with 1 M sodium bicarbonate. A protein concentration less than 2 mg/mL significantly reduces labeling efficiency. For best results, maintain a final protein concentration within 2-10 mg/mL. The protein must be in a buffer free from primary amines (e.g., Tris or glycine) and ammonium ions, as they interfere with labeling efficiency.</p> <p>2. Dye Preparation: Add anhydrous DMSO to Alexa Fluor 680 NHS ester diTEA vial to create a 10 mM stock solution, mixing thoroughly by pipetting or vortexing.</p> <p>3. Dye Quantity Calculation: The required amount of Alexa Fluor 680 NHS ester diTEA depends on the protein to be labeled, with an optimal dye-to-protein molar ratio of approximately 10. Example: For 500 µL of 2 mg/mL IgG (MW=150,000), dissolve 1 mg Alexa Fluor 680 NHS ester diTEA in 100 µL DMSO to obtain 7.76 µL of Alexa Fluor 680 NHS ester diTEA, calculated as follows: 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 (Alexa Fluor 680 NHS ester diTEA) = mmol (IgG) × 10 = 6.7×10⁻⁶ mmol × 10 = 6.7×10⁻⁵ mmol; 3) µL (Alexa Fluor 680 NHS ester diTEA) = mmol (Alexa Fluor 680 NHS ester diTEA) × MW (Alexa Fluor 680 NHS ester diTEA)/mg/µL (Alexa Fluor 680 NHS ester diTEA) = 6.7×10⁻⁵ mmol × 1158.29 mg/mmol/0.01 mg/µL = 7.76 µL (Alexa Fluor 680 NHS ester diTEA).</p> <p>4. Perform Conjugation Reaction: Slowly add freshly prepared 10 mg/mL Alexa Fluor 680 NHS ester diTEA into a 0.5 mL protein sample, gently mix, then briefly centrifuge to collect at the tube's bottom, avoiding vigorous agitation. Incubate the reaction tube in the dark at room temperature for 60 minutes, gently inverting every 10-15 minutes.</p> <p>5. Purify Conjugates: The following procedure illustrates the use of a SepHadex G-25 column for purifying dye-protein conjugates: 1) Prepare a SepHadex G-25 column according to manufacturer instructions. 2) Load the reaction mix onto the top of the SepHadex G-25 column. 3) When the sample runs below the resin surface, promptly add PBS (pH 7.2-7.4). 4) Continue adding PBS (pH 7.2-7.4) as necessary to complete column purification, and collect fractions containing the desired dye-protein conjugate.</p>

In vitro	The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.946 mL	4.7299 mL	9.4598 mL
5 mM	0.1892 mL	0.946 mL	1.892 mL
10 mM	0.0946 mL	0.473 mL	0.946 mL
50 mM	0.0189 mL	0.0946 mL	0.1892 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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