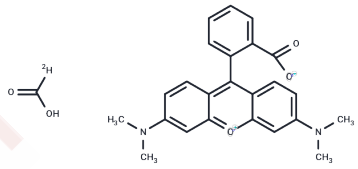
Data Sheet (Cat.No.T18899)

TargetMol

5(6)-TAMRA

Chemical Properties



CAS No. : 98181-63-6

Formula: C50H44N4O10

Molecular Weight: 860.92

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	5(6)-TAMRA (5(6)-Carboxytetramethylrhodamine) contains a carboxylic acid that can be used to react with primary amines via carbodiimide activation of the carboxylic acid. It is bright, orange-fluorescent dye produces conjugates with absorption/emission maxima of ~555/580 nm.
Targets(IC50)	Others
Cell Research	I. Peptide and protein labeling 1. Labeling reaction: 5(6)-TAMRA is reacted with the target peptide or protein, usually by amidation reaction to connect the dye molecule. Depending on the desired labeling effect, the reaction conditions, such as pH, reaction time and temperature, may need to be optimized. 2. Purification of labeled protein: After the reaction, unreacted dye is usually removed by dialysis or chromatography. 3. Fluorescence detection: Use fluorescence microscopy or flow cytometry for analysis to observe the presence and behavior of fluorescently labeled proteins or peptides. II. Cell labeling and imaging 1. Add 5(6)-TAMRA to the cell culture medium and incubate for a certain period of time (usually 30 minutes to 1 hour). 2. Wash to remove unabsorbed dye. 3. Use fluorescence microscopy or flow cytometry for observation and analysis of cell staining patterns and dynamic processes. III. Protein-protein interaction study: 1. Labeling target protein: 5(6)-TAMRA is labeled with the target protein. 2. Interaction with another protein: react the labeled protein with another unlabeled protein. 3. Fluorescence monitoring: monitor protein-protein interactions using FRET or fluorescence microscopy. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 120 mg/mL (139.39 mM),Heating is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1615 mL	5.8077 mL	11.6155 mL
5 mM	0.2323 mL	1.1615 mL	2.3231 mL
10 mM	0.1162 mL	0.5808 mL	1.1615 mL
50 mM	0.0232 mL	0.1162 mL	0.2323 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.

Reference

Altattan B, et al. Direct TAMRA-dUTP labeling of M. tuberculosis genes using loop-mediated isothermal amplification (LAMP). Sci Rep. 2024 Mar 7;14(1):5611.
Jiang M, et al. Design and synthesis of new acid cleavable linkers for DNA sequencing by synthesis. Nucleosides Nucleotides Nucleic Acids. 2014;33(12):774-85.
Mahrenholz CC,et al. A study to assess the cross-reactivity of cellulose membrane-bound peptides with detection systems: an analysis at the amino acid level. J Pept Sci. 2010 Jun;16(6):297-302.