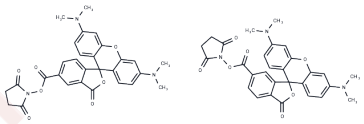
Data Sheet (Cat.No.T18898)

TargetMol

5(6)-TAMRA SE

Chemical Properties



CAS No. : 246256-50-8

Formula: C29H25N3O7

Molecular Weight: 527.53

Appearance: no data available

Storage: keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	5(6)-TAMRA SE (5(6)-Carboxytetramethylrhodamine N-succinimidyl ester) is the amine-reactive, mixed isomer form of TAMRA. 5(6)-TAMRA SE is a dye for oligonucleotide labeling and automated DNA sequencing applications.
Targets(IC50)	Others
Cell Research	Instructions I. Reagent preparation: Select DMSO (e.g. 10 mM stock solution) or water, and adjust the specific concentration according to the experimental requirements. Generally, a dye concentration of 1-10 μM is used for labeling. II. Operation steps 1. Labeling process: 1) Prepare oligonucleotides: Select appropriate oligonucleotides and dissolve them, with a common concentration of 10-100 μM. Note: Ensure that the oligonucleotides are of good quality and are synthesized according to the experimental requirements. 2. Labeling reaction: 1) Add 5(6)-TAMRA SE solution to the oligonucleotide solution. A molar ratio of 1:10 to 1:100 is usually used. 2) The reaction is usually carried out within 30 minutes to 1 hour, and the reaction conditions are room temperature or slightly lower temperature (such as 4°C). 3) The reaction time and temperature can be optimized according to the needs of the experiment. 3. Reaction optimization: 1) The reaction can be carried out in phosphate buffered saline (PBS) or Tris buffer, maintaining the pH value between 7.0 and 8.5, which is helpful for labeling reaction. 2) If necessary, appropriate amount of chemical reagents (such as esterase or amino acid to prevent non-specific reaction) can be added to the reaction to optimize the labeling effect. 4. Removal of unbound dye: 1) After the reaction, unbound 5(6)-TAMRA SE needs to be removed. This can be done by the following methods: 2) Dialysis: Remove free dye in the solution by dialysis. 3) Gel filtration: Use gel filtration column to remove unbound dye. 4) Centrifugation: Separate the labeled oligonucleotide from the free dye by

centrifugation.
5. Fluorescence detection: The labeled oligonucleotide can be detected by fluorescence. Measure the fluorescence signal using a fluorescence microscope, real-time PCR instrument, or other fluorescence imaging system:
Excitation wavelength: 540 nm
Emission wavelength: 595 nm
6. Data analysis:
Based on the fluorescence intensity of the marker, the characteristics of the target DNA sequence, the binding efficiency of the probe, and the application of oligonucleotides in DNA sequencing can be analyzed.
Notes:
1. Solubility: 5(6)-TAMRA SE has good solubility, but it is necessary to avoid exposing the dye to strong light during use to prevent the fluorescence signal from attenuating.
2. Nonspecific binding: During the labeling reaction, the concentration and reaction time of the dye should be controlled to avoid nonspecific binding of the dye to non-target molecules.
3. Storage: The dye should be kept away from light and usually needs to be stored at low temperature (-20°C) to maintain its stability.

Solubility Information

Solubility	DMSO: 25 mg/mL (47.39 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8956 mL	9.4781 mL	18.9563 mL
5 mM	0.3791 mL	1.8956 mL	3.7913 mL
10 mM	0.1896 mL	0.9478 mL	1.8956 mL
50 mM	0.0379 mL	0.1896 mL	0.3791 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.

Reference

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.
Zhang J, Zhou E C, He Y, et al.ZYG11B potentiates the antiviral innate immune response by enhancing cGAS-DNA binding and condensation.Cell Reports.2023, 42(3).
Brunner A, et al. Labelling peptides with fluorescent probes for incorporation into degradable polymers. Eur J Pharm Biopharm. 1998 May;45(3):265-73.
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.