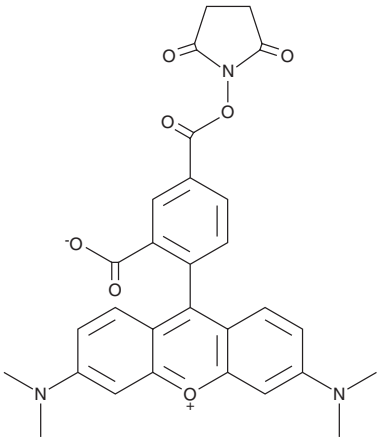
PRODUCT INFORMATION

5-Carboxytetramethylrhodamine succinimidyl ester

Item No. 28509

CAS Registry No.:	150810-68-7
Formal Name:	9-[2-carboxy-4-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]phenyl]-3,6-*bis*(dimethylamino)-xanthylium, inner salt
Synonym:	5-TAMRA-SE
MF:	$C_{29}H_{25}N_3O_7$
FW:	527.5
Purity:	≥90%
UV/Vis.:	λ_{max}: 357, 545 nm
Ex./Em. Max:	540-560/580 nm, respectively
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

5-Carboxytetramethylrhodamine succinimidyl ester (5-TAMRA-SE) is supplied as a solid. A stock solution may be made by dissolving the 5-TAMRA-SE in the solvent of choice, which should be purged with an inert gas. 5-TAMRA-SE is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5-TAMRA-SE in these solvents is approximately 0.2, 1.4, and 2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 5-TAMRA-SE can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 5-TAMRA-SE in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

5-TAMRA-SE is an amine-reactive fluorescent probe.[1] It has been used in double site-directed peptide modification to label proteinase substrates for use in FRET assays. It quenches lucifer yellow CH (Item No. 25573) fluorescence by greater than 90% in uncleaved proteinase substrates, which allows for the detection of enzyme-cleaved substrates by an increase in fluorescence intensity. It has also been used in the synthesis of fluorescent derivatives of a variety of compounds, including the antibiotic ampicillin (Item No. 14417), nucleotide diphosphate uridine-5'-diphosphate (UDP; Item No. 18137), and the progesterone receptor antagonist RU486 (mifepristone; Item No. 10006317).[2-4] 5-TAMRA-SE displays excitation maxima ranging from 540 to 560 nm and an emission maximum of 580 nm.[1]

References

1. Geoghegan, K.F., Emery, M.J., Martin, W.H., *et al. Bioconjug. Chem.* **4(6)**, 537-544 (1993).
2. Shapiro, A.B., Comita-Prevoir, J., and Sylvester, M. *ACS Infect. Dis.* **5(6)**, 863-872 (2019).
3. QI, J., Oppenheimer, M., and Sobrado, P. *Enzyme Res.* **2011:513905** (2011).
4. Weinstain, R., Kanter, J., Friedman, B., *et al. Bioconjug. Chem.* **24(5)**, 766-771 (2013).

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