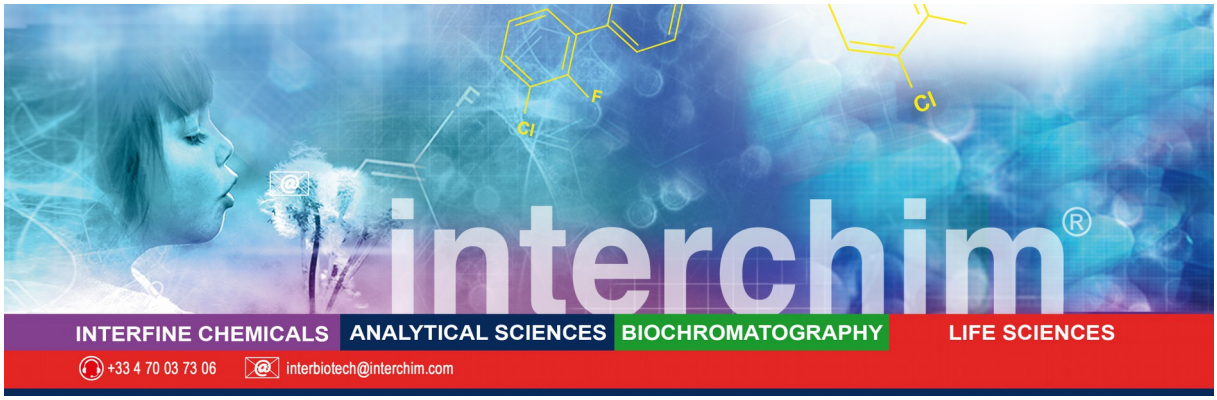
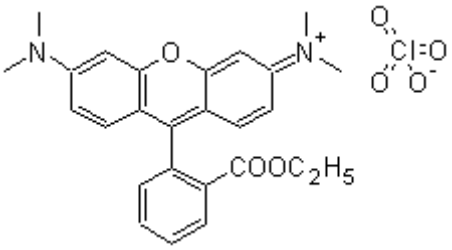
FT-41391A



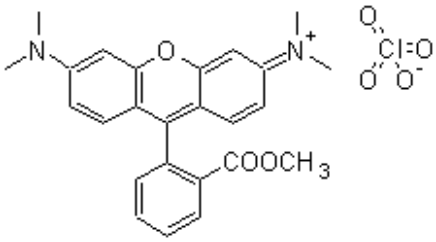
TMRE, TMRM

Product Information

Name :	**TMRE** Tetramethylrhodamine Ethyl Ester, perchlorate
Catalog Number :	FP-41391A, 25 mg
Structure :	$C_{26}H_{27}ClN_2O_7$
Molecular Weight :	MW= 514.96
Solubility:	Soluble in DMSO, EtOH
Absorption / Emission :	$\lambda_{exc}\backslash\lambda_{em}$ (MeOH) = 549/574 nm
EC (M^{-1} cm^{-1}) **:**	109 000



Name :	**TMRM** Tetramethylrhodamine Methyl Ester, perchlorate
Catalog Number :	FP-21089A, 25 mg
Structure :	$C_{25}H_{25}ClN_2O_7$
Molecular Weight :	MW= 500.93
Solubility:	Soluble in DMSO, MetOH
Absorption / Emission :	$\lambda_{exc}\backslash\lambda_{em}$ (MeOH) = 548/574 nm
EC (M^{-1} cm^{-1}) **:**	115 000



Storage: –20°C (M Protect from light and moisture

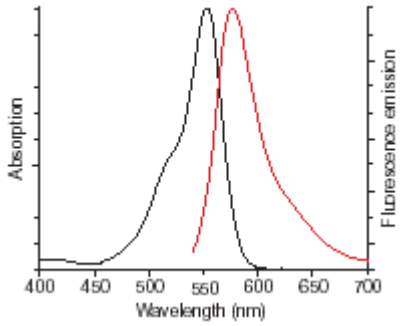
Introduction

TMRM and TMRE, the methyl and ethyl esters of tetramethylrhodamine, are preferred as rapid membrane potential sensors for quantitative measurements using Nernst equation. They pass through the plasmatic membrane better than related rhodamine 123, and accumulate in mitochondria where fluorescence self quenches. The transmembrane distribution is directly related to the membrane potential, because they do not form aggregates in cell membranes or interact with membrane proteins. They are used to obtain unbiased images of potential-dependent dye distribution. Highly selective, potential-dependent staining of mitochondria is obtained by setting the extracellular K+ concentration close to intracellular values (~137 mM), thereby depolarizing the plasmatic membrane.

Their high fluorescence allows to work with a low concentration (avoid aggregation in cell membranes).

FT-41391A

Absorbance and emission spectra of TMR in pH7 buffer



Directions for use

Handling and Storage

TMRM, **TMRE**, were dissolved in methanol or ethanol and used directly. The final concentrations of methanol or ethanol were kept to <0.5% (v/v) in all incubations of mitochondria.

Some datas about use of TMRE/TMRA:

Cells	Source	Concentration	Temperature	Time	Notes
Rat hippocampi	Bindokas 1998	1µM TMRE/TMRM	+23°C	Maintened in dye sol. 100nM	Microfluorometer
Rat cardiomyocytes	Duchen 1998	3µM TMRE	Room temperature	20 min	Epifluorescence
NIH 3T3 fibroblast	Fink 1998	100 nM TMRE	+37°C	10 min	Confocal microscopy

Other protocol may be found in litterature.

Related products

- JC-1, FP-52314A
- JC-10, superior alternative to JC-1, FP-CL0440
- Dihydrorhodamine 123, FP-AM352A
- Valinomycin, FP-09246B
- CCCP, 091640

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