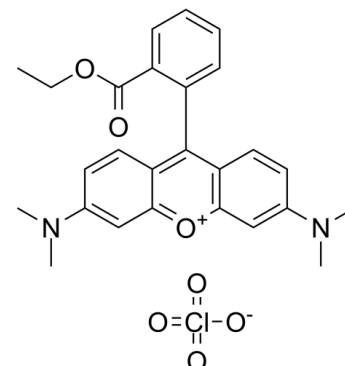


Data Sheet

Product Name:	TMRE
Cat. No.:	CS-8104
CAS No.:	115532-52-0
Molecular Formula:	C ₂₆ H ₂₇ CIN ₂ O ₇
Molecular Weight:	514.95
Target:	Others
Pathway:	Others
Solubility:	DMSO : ≥ 150 mg/mL (291.29 mM)



BIOLOGICAL ACTIVITY:

TMRE is a mitochondria specific dye ($\lambda_{ex}=550$ nm, $\lambda_{em}=575$ nm). **In Vitro:** TMRE is a mitochondria specific dye ($\lambda_{ex}=550$ nm, $\lambda_{em}=575$ nm)^[1]. Multidirectional dynamic movement of TMRE is observed in epithelial cells and bidirectional dynamic movement is seen in the superficial cortical fiber cells of live bovine lenses. In the epithelium, the movement of TMRE fluorescence is up to 5 $\mu\text{m}/\text{min}$ whereas in the superficial cortex the observed movement is up to 18.5 $\mu\text{m}/\text{min}$. The movement of TMRE fluorescence is abolished with treatment of the uncoupler, carbonyl cyanide m-chlorophenylhydrazone (CCCP)^[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: Dissolve TMRE in ethanol or DMSO to make a 1 mM stock solution. Store at -20°C .^[1] The entire experiment should be performed at room temperature because temperature will directly impact mitochondrial transmembrane potential and TMRE staining. Cells should never be placed, centrifuged, incubated, or washed at 4°C or have ice-cold buffers or media added. Treat the cells with a cytotoxic stimulus. Harvest cells and resuspend at 5×10^5 cells/mL in culture medium containing 150 nM TMRE. Incubate for 5 min at room temperature in the dark. Add Carbonyl cyanide 4-(trifluoromethoxy)phenylhydrazone (FCCP) (5 μM final concentration) to an aliquot of untreated cells and incubate for 5 min at room temperature in the dark. Turn on the appropriate laser on the flow cytometer. Set up a histogram plot to detect TMRE using log scale^[1].

References:

- [1]. Crowley LC, et al. Measuring Mitochondrial Transmembrane Potential by TMRE Staining. Cold Spring Harb Protoc. 2016 Dec 1;2016(12);pdb.prot087361.
[2]. Bantsev V, et al. Confocal laser scanning microscopy imaging of dynamic TMRE movement in the mitochondria of epithelial and superficial cortical fiber cells of bovine lenses. Mol Vis. 2005 Jul 14;11:518-23.

CAIndexNames:

Xanthylium, 3,6-bis(dimethylamino)-9-[2-(ethoxycarbonyl)phenyl]-, perchlorate (1:1)

SMILES:

O=C(C1=CC=CC=C1C2=C3C=CC(N(C)C)=CC3=[O+]C4=C2C=CC(N(C)C)=C4)OCC.O=C(=O)([O-])[O-]=O

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA