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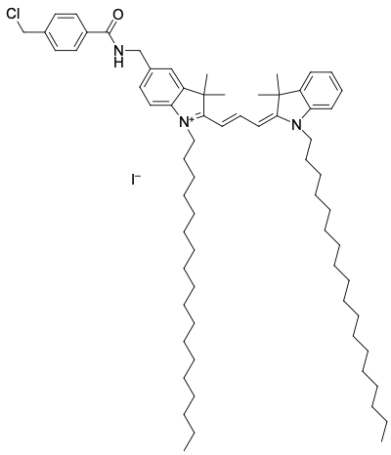
CM-DiI, lipophilic tracer

http://www.lumiprobe.com/p/celltracker-cm-di-i-tracer

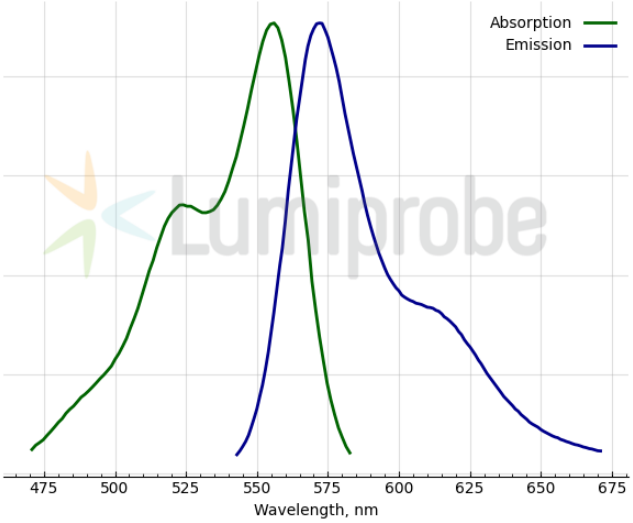
CM-DiI is an orange-red fluorescent carbocyanine dye containing thiol-reactive chloromethyl (CM) moiety. CM-DiI labels plasma membranes by inserting its two long hydrocarbon (C18 carbon) chains into the lipid bilayer. The dye is weakly fluorescent until incorporated into membranes.

CM-DiI is used for *in vivo* and *in vitro* labeling of cells to analyze their proliferation as well as for cell tracking and motility assays. The dye is transferred to daughter cells and does not leak to adjacent cells in a population. CM-DiI staining displays bright fluorescence for at least 72 hours (around three to six cell generations). The dye shows little cytotoxicity inside the cell, with minimal effects on the proliferative ability or biology of the cell.

Unlike other membrane dyes, CM-DiI has increased water solubility and can be fixed using traditional aldehyde fixatives. CM-DiI also persists in cells after permeabilization procedures. These make it feasible to detect labeled cells in combination with other histological techniques such as immunochemistry, optical clearing, etc.



Structure of CM-DiI, lipophilic tracer



Absorption and emission spectra of CM-DiI

General properties

Appearance:	red powder
Molecular weight:	1142.96
CAS number:	180854-97-1
Molecular formula:	$C_{68}H_{105}ClIN_3O$
Solubility:	in DMSO, DMF, ethanol
Quality control:	NMR ^1H and HPLC-MS (95+%)
Storage conditions:	24 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.
Legal statement:	Product is offered and sold for research purposes only. Product is not tested for safety and efficacy in food, drug, medical device, cosmetic, no express or implied authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, for humans or animals or for commercial purposes.

Spectral properties

Excitation/absorption maximum, nm:	556
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	129500
Emission maximum, nm:	571

Fluorescence quantum yield:	0.16