

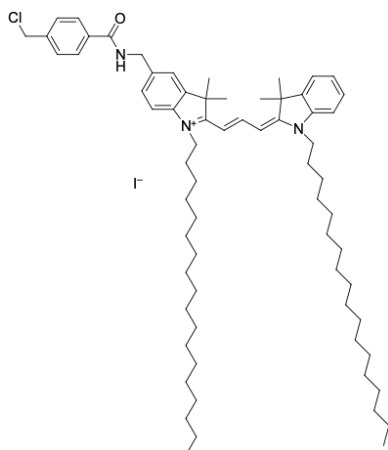
CM-Dil, lipophilic tracer

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

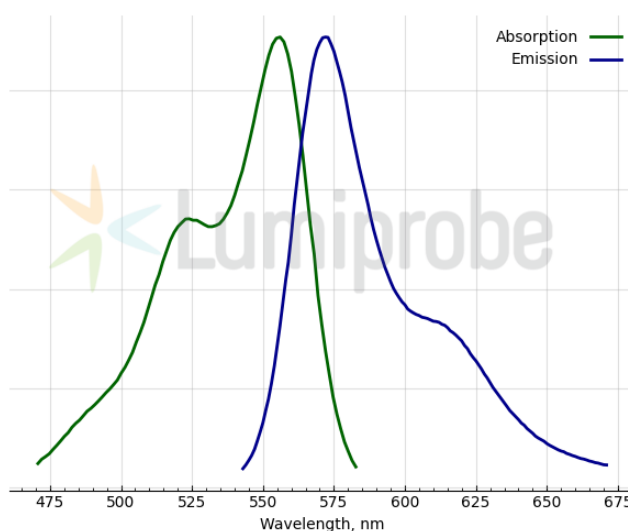
CM-Dil is an orange-red fluorescent carbocyanine dye containing thiol-reactive chloromethyl (CM) moiety. CM-Dil labels plasma membranes by inserting its two long hydrocarbon (C18 carbon) chains into the lipid bilayer. The dye is weakly fluorescent until incorporated into membranes.

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



Structure of CM-Dil, lipophilic tracer



Absorption and emission spectra of CM-Dil

General properties

Appearance:	red powder
Molecular weight:	1142.96
CAS number:	180854-97-1
Molecular formula:	C ₆₈ H ₁₀₅ ClIN ₃ O
Solubility:	in DMSO, DMF, ethanol
Quality control:	NMR ¹ H and HPLC-MS (95+%)
Storage conditions:	24 months after receipt 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, <i>in vitro</i> diagnostic purposes, for humans or animals or for commercial purposes.

Spectral properties

Excitation/absorption maximum, nm:	556
ε, L·mol ⁻¹ ·cm ⁻¹ :	129500
Emission maximum, nm:	571

Fluorescence quantum yield: 0.16