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Catalog Number: SR-1001

Product Name: SRfluor® 680 Phenyl

Product Description: A lipophilic far-red emitting dye, based upon the squaraine rotaxane family of dyes, which accumulates at lipophilic sites within live cells.

Figure 1: Structure of SRfluor® 680 Phenyl

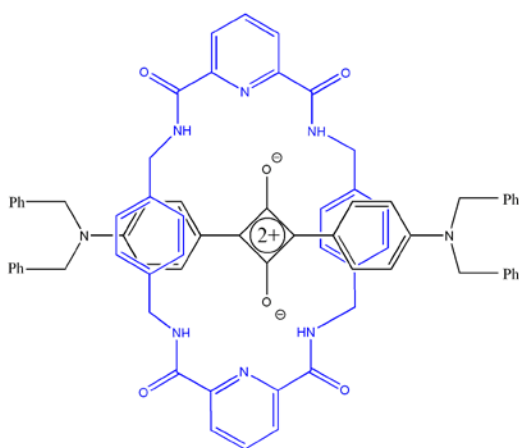
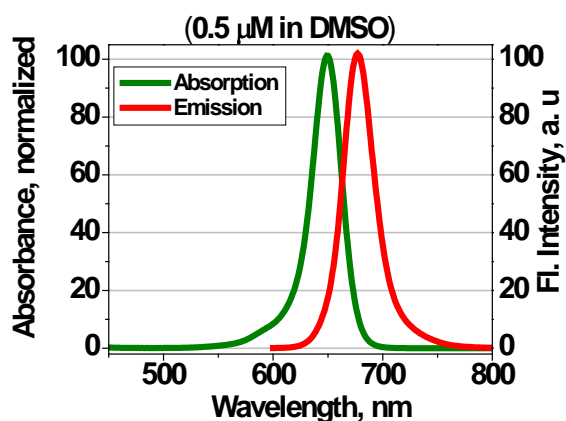


Figure 2: SRfluor®-680 Phenyl Absorbance and Fluorescence Emission Spectra (abs max = 650 nm; em max = 678 nm in DMSO)



Product size: 1 mg of crystalline green powder.

Molecular Weight: 1158

Product Purity: >95% by HPLC at 650nm.

Extinction Coefficient (DMSO): 297,780 cm⁻¹M⁻¹ (650 nm).

Storage/Stability: Solid should be stored in the dark at room temperature. Solutions in DMSO should be stored in the dark at 0-4 °C and are found to be stable for at least 1 month.

Applications:

SRfluor®-680 Phenyl has been found to be 5-20X brighter compared with cyanines, Alexa® and Atto dyes and also have improved chemical and photochemical stability (1,2). When applied to cells, it rapidly accumulates at lipophilic sites inside the cell such as endoplasmic reticulum and intracellular lipid droplets without affecting cell viability and growth (3).

Additional Information

- 1mg of SRfluor®-680 Phenyl can be dissolved in 1.73 mL of DMSO by heating at 40° C and sonicating to provide a 0.5mM stock solution.
- SRfluor®-680 Phenyl can be efficiently excited with 633nm and 647nm laser lines and detected using a standard filter set-up for Cy5.

References:

- (1) Johnson, J. R.; Fu, N.; Arunkumar, E.; Leevy, W. M.; Gammon, S. T.; Piwinica-Worms, D.; Smith, B. D. Squaraine Rotaxanes: Superior Substitutes for Cy-5 in Molecular Probes for Near-Infrared Fluorescence Cell Imaging *Angew. Chem. Int. Ed.* **2007**, *46*, 5528.
- (2) Arunkumar, E.; Fu, N.; Smith, B. D. Squaraine-Derived Rotaxanes: Highly Stable, Fluorescent Near-IR Dyes. *Chem.-Eur. J.* **2006**, *12*, 4684.
- (3) Arunkumar, E.; Forbes, C. C.; Noll, B. C.; Smith B. D. Squaraine-Derived Rotaxanes: Sterically Protected Fluorescent Near-IR Dyes *J. Am. Chem. Soc.* **2005**, *127*, 3288.

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