



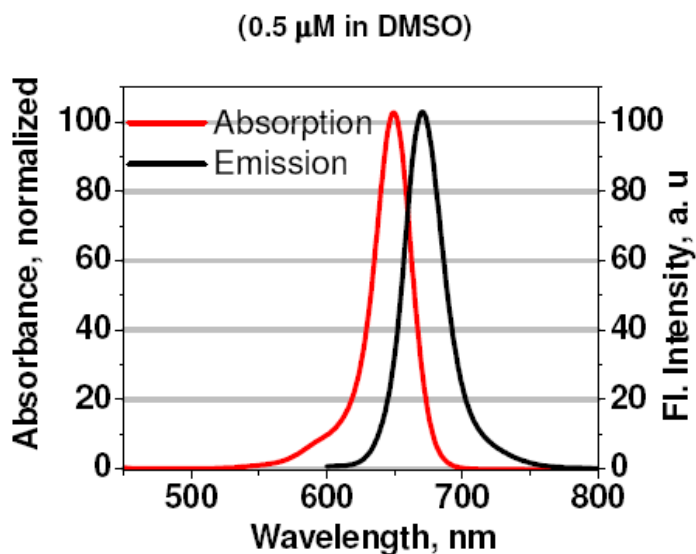
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**Catalog Number: SR-1005**

**Product Name: SRfluor® 680 NHS ester**

**Product Description:** A far-red emitting dye (Figure 1), belonging to the squaraine rotaxane family of dyes, which bears a free NHS ester group that can be coupled to free amino groups.

*Figure 1: Spectra of SRfluor®-680 NHS ester. (absorption maxima = 649 nm; emission maxima = 670 nm)*



**Product size:** 1 mg of crystalline dark blue powder.

**Molecular Weight:** 1206

**Product Purity:** > 90% by HPLC

**Extinction Coefficient (DMSO):**  $\sim 251,410 \text{ cm}^{-1}\text{M}^{-1}$  (649 nm).

**Storage/Stability:** Solid as well as stock solutions in DMF/DMSO should be stored in the dark at -10 to 0°C.

**Applications:**

SRfluor®- dyes has been found to be 5-20X brighter compared with cyanines, Alexa® and ATTO® dyes and also to have improved chemical and photochemical stability (1-3). It can be coupled to peptides, proteins and antibodies, etc., to provide fluorescent conjugates for use in Western-Blots and *in vivo* imaging studies.

**Additional Information:**

- 1mg of SRfluor®-680 NHS ester can be dissolved in 0.82 mL of DMF/DMSO to provide a 1mM stock solution.
- SRfluor® 680 NHS ester can be efficiently excited with either 633nm or 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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