

Product Description: Provides an aqueous formulation of the lipophilic far-red emitting squaraine-rotaxane dye, SRfluor® 680 phenyl, in micelles composed of DPPE-PEG₂₀₀₀ which is known to accumulate in interscapular brown adipose tissue (BAT) in mice [1]. BAT plays a key role in energy expenditure and heat generation and is a promising target for diagnosing and treating obesity, diabetes and related metabolism disorders. Optical imaging with micellar SRfluor® 680 phenyl thus provides a convenient protocol for high throughput imaging of BAT in small animal models. Imaging studies indicate that uptake is independent of mouse species and BAT metabolic state.

Properties of micellar SRfluor® 680 phenyl: Dye structure is shown in Fig 1 and spectroscopic properties of the dye loaded micelles are shown in Fig 2 (Abs max=646nm; Em max=670nm).

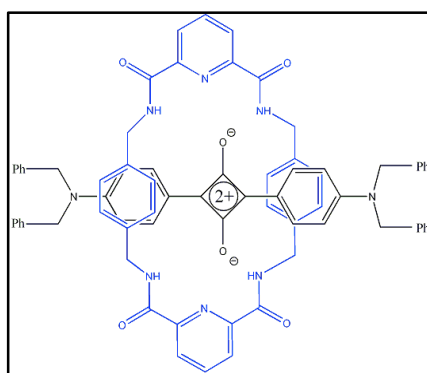


Fig 1: Chemical structure of SRfluor® 680 phenyl

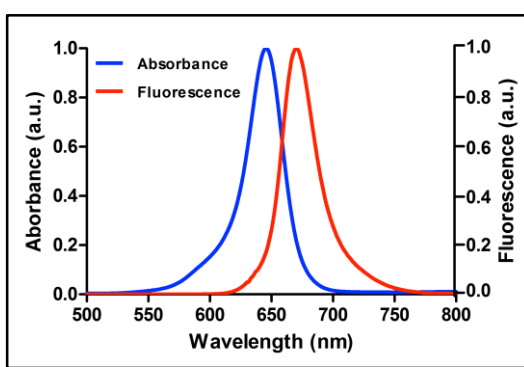
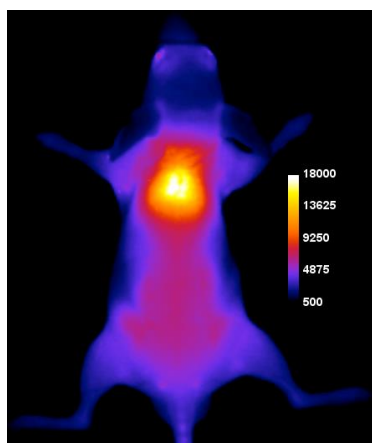


Fig 2: Absorbance and emission spectra of micellar SRfluor® 680 phenyl in PBS (pH 7.4)



In vivo imaging with micellar SRfluor® 680 phenyl: Fig 3 shows the fluorescence imaging results of a living SKH1 hairless mouse given a single intravenous 10nmol dose of micellar SRfluor 680 phenyl and imaged at 3h using an IVIS Lumina system (Xenogen) with ex: 615-665nm and em:695-770nm. Clear evidence for selective accumulation in the BAT deposits in the neck and interscapular area was observed.

Product Formulation Procedure: Add 1mL of water and sonicate for 10-15min to provide soluble micellar solution. Inject 100-150uL per mouse for in vivo imaging studies.

Reference: Rice DR et. al. Fluorescence imaging of interscapular brown adipose tissue in living mice. J. Mater. Chem. B 2015, 3: 1979-1989.

For further information or to place an order please contact Dr. Brian Gray by email: briangray@mtarget.com or phone: 610-738-7938

Catalog #	Product Name	Size/Dose	Price (USD)
SR-1010	Micellar SRfluor 680® phenyl	100 nmoles of dye	\$395.00



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