Certificate of Analysis

Product Name: **Cyanine 3 Tyramide** **Catalog No.: 6457** **Batch No.: 1**

CAS Number: 174961-75-2

IUPAC Name: 2-[3-[(1-Ethyl-1,3-dihydro-3,3-dimethyl-5-sulfo-2*H*-indol-2-ylidene)-1-propen-1-yl]-1-[6-[[2-(4-hydroxyphenyl)ethyl] amino-6-oxohexyl]-3,3-dimethyl-5-sulfo-3*H*-indolium inner salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{39}H_{47}N_3O_8S_2$

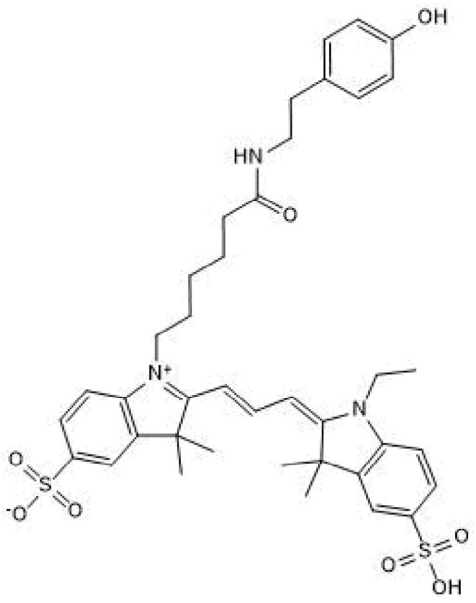
Batch Molecular Weight: 749.94

Physical Appearance: Red solid

Solubility: DMSO to 16 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.7% purity at 210 nm

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 550 nm

λ_{ex}: 550 nm

λ_{em}: 563 nm

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Description:

Cyanine 3 Tyramide is an orange fluorescent reagent widely used for tyramide signal amplification (TSA) in IHC, ICC, FISH and multicolor FISH. HRP catalyzes localized deposition of multiple tyramide molecules (catalyzed reporter deposition, CARD), binding the fluorescein tyramide to adjacent tyrosines to enhance fluorescent signal.

Physical and Chemical Properties:

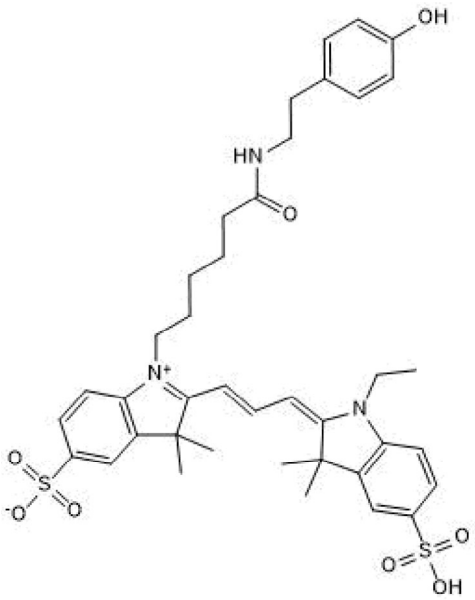
Batch Molecular Formula: $C_{39}H_{47}N_3O_8S_2$

Batch Molecular Weight: 749.94

Physical Appearance: Red solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 16 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Zhao *et al* (2013) Characterization of GABAergic neurons in the mouse lateral septum: a double fluorescence *in situ* hybridization and immunohistochemical study using tyramide signal amplification. PLoS One ***8*** e73750. PMID: 23967349.

Schriml *et al* (1999) Tyramide signal amplification (TSA)-FISH applied to mapping PCR-labeled probes less than 1 kb in size. Biotechniques ***27*** 608. PMID: 10489619.

Hopman *et al* (1998) Rapid synthesis of biotin-, digoxigenin-, trinitrophenyl-, and fluorochrome-labeled tyramides and their application for *in situ* hybridization using CARD amplification. J.Histochem.Cytochem. ***46*** 771. PMID: 9603790.