

Certificate of Analysis

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Product Name: Indocyanine green

Catalog No.: 7510

Batch No.: 2

CAS Number: 3599-32-4

IUPAC Name: Sodium 4-(2-(((1*E*,3*E*,5*E*,7*Z*)-7-(1,1-Dimethyl-3-(4-sulfonatobutyl)-1,3-dihydro-2*H*-benzo[*e*]indol-2-ylidene)hepta-1,3,5-trien-1-yl)-1,1-dimethyl-1*H*-benzo[*e*]indol-3-ium-3-yl)butane-1-sulfonate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₃H₄₇N₂O₆S₂Na

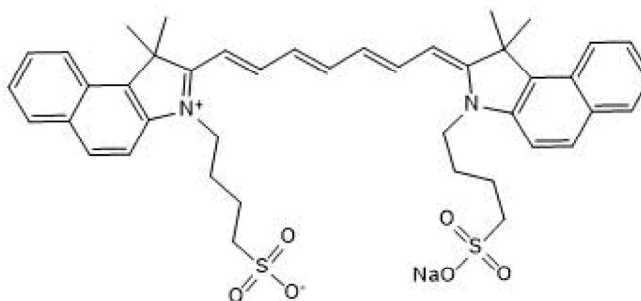
Batch Molecular Weight: 774.97

Physical Appearance: Dark green solid

Solubility: DMSO to 20 mM
water to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 780 nm (Water)

λ_{ex}: 788 nm (Water)

λ_{em}: 808 nm (Water)

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Key information: Indocyanine green (ICG) is a near-infrared (NIR) fluorescent dye suitable for in vivo imaging. Application: Fluorescence microscopy, in vivo imaging. Properties and Photophysical Data: Indocyanine green is a NIR fluorescent dye operating in the 700-900 nm wavelength range. It binds to β -lipoproteins, particularly albumin, in plasma and exhibits fluorescence emission in the shortwave infrared window (SWIR; 1,000-2,000 nm) which enables in vivo imaging, including intravital microscopy, non-invasive real-time imaging in blood and lymph vessels, and imaging of hepatobiliary clearance. Imaging of indocyanine green in SWIR ... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

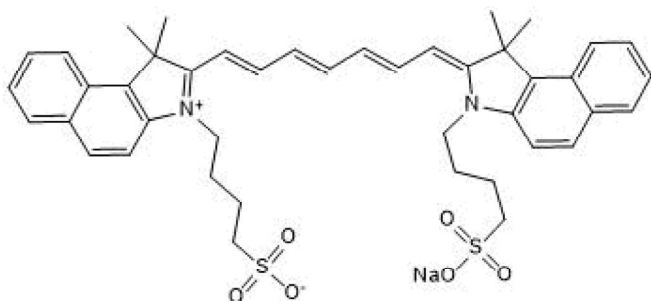
Batch Molecular Formula: C₄₃H₄₇N₂O₆S₂Na

Batch Molecular Weight: 774.97

Physical Appearance: Dark green solid

Minimum Purity: ≥95%

Batch Molecular Structure:



References:

Cosco et al (2021) Photophysical properties of indocyanine green in the shortwave infrared region. *ChemPhotoChem.* **5** 727. PMID: 34504949.

Lee et al (2021) Surgical outcomes of localization using indocyanine green fluorescence in breast conserving surgery: a prospective study. *Sci.Rep.* **11** 9997. PMID: 33976314.

Li et al (2019) Recent progress in small-molecule near-IR probes for bioimaging. *Trends Chem.* **1** 224. PMID: 32864595.

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 20 mM

water to 50 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.

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