Certificate of Analysis

Product Name: **Janelia Fluor® 646, NHS ester** **Catalog No.: 6148** **Batch No.: 10**

CAS Number: 1811539-59-9

IUPAC Name: 1-[7-(1-Azetidinyl)-10-[2-carboxy-5-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]phenyl]-9,9-dimethyl-9-silaanthracen-2(9*H*)-ylidene]azetidinium, inner salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{33}H_{31}N_3O_6Si$

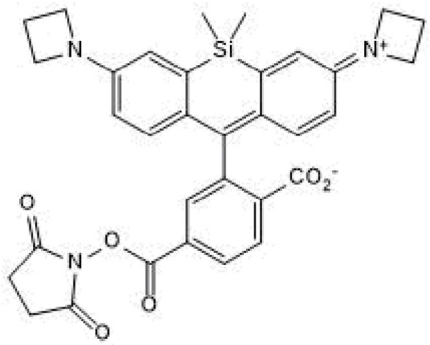
Batch Molecular Weight: 593.71

Physical Appearance: Yellow solid

Solubility: DMSO to 5 mM
DMF to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.4% purity at 658 nm

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 655 nm (EtOH + 0.1% TFA)

λ_{ex}: 661 nm (EtOH + 0.1% TFA)

λ_{em}: 676 nm (EtOH + 0.1% TFA)

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Product Name: **Janelia Fluor® 646, NHS ester** **Catalog No.: 6148** **10**

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Description:

Key Information: Janelia Fluor® 646, NHS ester is a red fluorogenic fluorescent dye; supplied with an NHS ester reactive group for the labeling of primary amines. Suitable for live cell imaging.Application: Suitable for flow cytometry, confocal microscopy, super resolution microscopy (SRM) techniques including dSTORM (in both live and fixed cells) and STED. Cell permeable.Properties and Photophysical Data: NHS ester can be converted to relevant substrate for use in self-labeling tag systems, e.g. HaloTag® and SNAP-tag®. Can be multiplexed for two color imaging with Janelia Fluor® 549 NHS ester (Cat. No. 6147). Excitation an... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

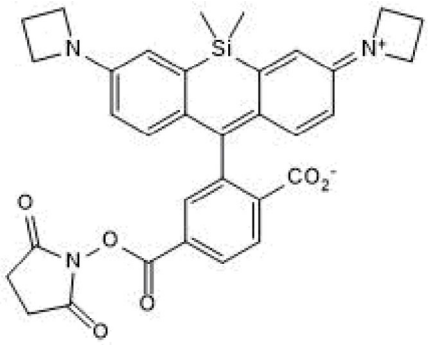
Batch Molecular Formula: $C_{33}H_{31}N_3O_6Si$

Batch Molecular Weight: 593.71

Physical Appearance: Yellow solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C. This product is packaged under an inert atmosphere.

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 5 mM
DMF to 50 mM

We recommend that stock solutions of this dye are prepared in anhydrous DMF. To measure the absorbance spectrum of this dye we recommend the following solvent: ethanol or trifluoroethanol plus 0.1% TFA. CAUTION - This product is chemically unstable in the presence of Trifluoroacetic acid (TFA).

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.

Licensing Information:

Sold under license from the Howard Hughes Medical Institute, Janelia Research Campus

References:

Zheng *et al* (2019) Rational design of fluorogenic and spontaneously blinking labels for super-resolution imaging. ACS Cent.Sci. ***5*** 1602. PMID: 31572787.

Legant *et al* (2016) High-density three-dimensional localization microscopy across large volumes. Nat.Methods ***13*** 359. PMID: 26950745.

Li *et al* (2016) Real-time imaging of Huntingtin aggregates diverting target search and gene transcription. Elife ***5*** e17056. PMID: 27484239.