

# Certificate of Analysis

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**Product Name:** Janelia Fluor® 646, free acid

**Catalog No.:** 8915

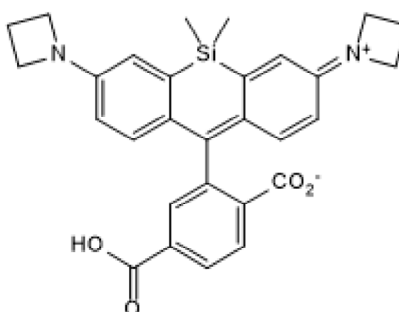
**Batch No.:** 1

**CAS Number:** 1811539-57-7

**IUPAC Name:** 1-[7-(1-Azetidiny)-10-(2,5-dicarboxyphenyl)-9,9-dimethyl-9-silaanthracen-2(9*H*)-ylidene]azetidinium inner salt

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>29</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub>Si  
**Batch Molecular Weight:** 496.64  
**Physical Appearance:** Pale green solid  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.4% purity at 655 nm  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**UV Spectrum:** Consistent with structure  
**λ<sub>max</sub>:** 655 nm (EtOH + 0.1% TFA)  
**λ<sub>ex</sub>:** 655 nm (EtOH + 0.1% TFA)  
**λ<sub>em</sub>:** 672 nm (EtOH + 0.1% TFA)

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

**bio-techne.com**  
[info@bio-techne.com](mailto:info@bio-techne.com)  
[techsupport@bio-techne.com](mailto:techsupport@bio-techne.com)

**North America**  
 Tel: (800) 343 7475

**China**  
[info.cn@bio-techne.com](mailto:info.cn@bio-techne.com)  
 Tel: +86 (21) 52380373

**Europe Middle East Africa**  
 Tel: +44 (0)1235 529449

**Rest of World**  
[www.tocris.com/distributors](http://www.tocris.com/distributors)  
 Tel: +1 612 379 2956

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**Description:**

**Key Information:** Janelia Fluor® 646, free acid is a red fluorogenic fluorescent dye; supplied with a free acid reactive group. Suitable for live cell imaging. **Application:** Suitable for flow cytometry, confocal microscopy, super resolution microscopy (SRM) including dSTORM (in both live and fixed cells) and STED. Used in protocol (2017 Grimm et al - see references below) for the synthesis of Janelia Fluor® HaloTag® and SNAP-Tag® ligands, for use in live cell imaging experiments. **Cell permeable.** **Properties and Photophysical Data:** Excitation and emission maxima ( $\lambda$ ) are 646 nm and 664 nm, respectively; quantum yield = 0.54; ex... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

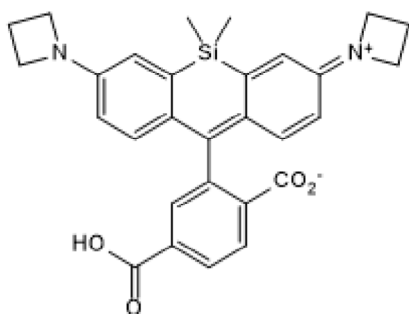
**Batch Molecular Formula:** C<sub>29</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub>Si

**Batch Molecular Weight:** 496.64

**Physical Appearance:** Pale green solid

**Minimum Purity:** ≥95%

**Batch Molecular Structure:**



**References:**

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

**Grimm et al** (2017) Synthesis of Janelia Fluor HaloTag and SNAP-Tag ligands and their use in cellular imaging experiments. *Methods Mol.Biol.* **1663** 179. PMID: 28924668.

**Grimm et al** (2015) A general method to improve fluorophores for live-cell and single-molecule microscopy. *Nat.Methods* **12** 244. PMID: 25599551.

**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.

**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

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**bio-techne.com**

info@bio-techne.com  
techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com  
Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

www.tocris.com/distributors  
Tel: +1 612 379 2956