Certificate of Analysis

Product Name: **SPiDER-βGal Cellular Senescence Dye** **Catalog No.: 9034** **Batch No.: 1**

CAS Number: 1824699-57-1

IUPAC Name: 6'-(Diethylamino)-4'-(fluoromethyl)spiro[isobenzofuran-1(3*H*),9'-[9*H*]xanthen]-3'-yl-β-D-galactopyranoside

1. PHYSICAL AND CHEMICAL PROPERTIES

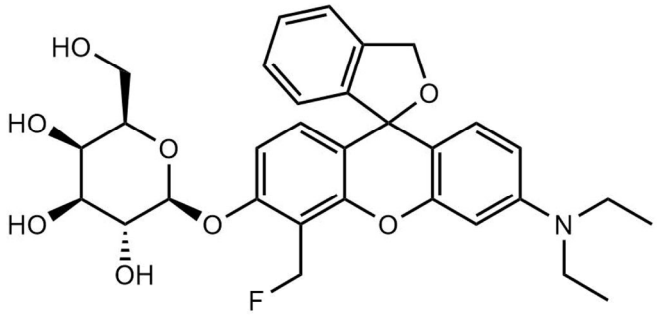
Batch Molecular Formula: $C_{31}H_{34}FNO_8$

Batch Molecular Weight: 567.6

Physical Appearance: Red solid

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 95.8% purity

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Description:

Key information: SPiDER-βGal Cellular Senescence Dye is a fluorogenic β-galactosidase substrate suitable for labeling live cells in culture and living tissues. It exhibits activation of fluorescence upon reaction with the enzyme, remains inside cells by anchoring itself to intracellular proteins and provides single-cell resolution. Used for: labeling and imaging lacZ reporters in living cells, tissues and model organisms. Also used to investigate senescence. Application: Confocal microscopy, flow cytometry, fluorescence microscopy. SPiDER-βGal Cellular Senescence Dye has high sensitivity for the detection of peritoneal ovari... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

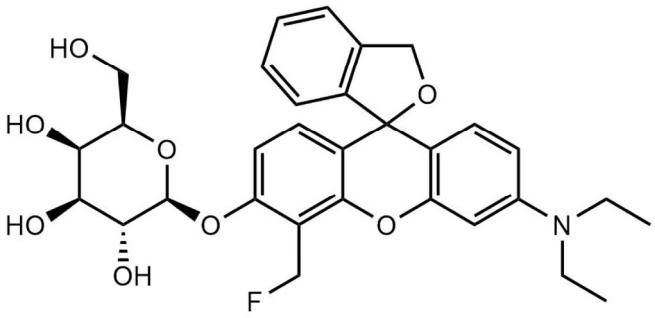
Batch Molecular Formula: $C_{31}H_{34}FNO_8$

Batch Molecular Weight: 567.6

Physical Appearance: Red solid

Minimum Purity: ≥85%

Batch Molecular Structure:



Storage: Store at +4°C

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.

References:

Ibler *et al* (2019) Typhoid toxin exhausts the RPA response to DNA replication stress driving senescence and Salmonella infection. Nat.Commun. ***10*** 4040. PMID: 31492859.

Nakamura *et al* (2017) A topically-sprayable, activatable fluorescent and retaining probe, SPiDER-βGal for detecting cancer: Advantages of anchoring to cellular proteins after activation. Oncotarget ***8*** 39512. PMID: 28467810.

Doura *et al* (2016) Detection of lacZ-positive cells in living tissue with single-cell resolution. Angew.Chem.Int.Ed. ***55*** 9620. PMID: 27400827.

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