

FDGlcU [Fluorescein di-beta-D-glucuronide]

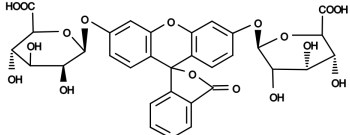
Catalog number: 14002

Unit size: 1 mg

Product Details

| | |
|--------------------|--|
| Storage Conditions | Freeze (<math>< -15\text{ }^{\circ}\text{C}</math>), Minimize light exposure |
| Expiration Date | 12 months upon receiving |

Chemical Properties

| | |
|--------------------|---|
| Appearance | Solid |
| Molecular Weight | 684.55 |
| Soluble In | DMSO |
| Chemical Structure |  |

Spectral Properties

| | |
|-----------------------|--------|
| Excitation Wavelength | 498 nm |
| Emission Wavelength | 517 nm |

Applications

The beta-glucuronidase (GUS) enzyme from *E. coli* (EC 3.2.1.31) has been well documented to provide desirable characteristics as a marker gene in transformed plants. The GUS reporter gene system has many advantages including stable expression of *E. coli* GUS enzyme, no interference with normal plant metabolism, and low intrinsic GUS activity in higher plants. FDGlcU is considered to be one of the most sensitive fluorogenic substrates available for detecting beta-glucuronidase. The colorless and nonfluorescent FDGlcU is hydrolyzed to highly fluorescent fluorescein, which exhibits excellent spectral properties that match the optimal detection window of most fluorescence instruments. Glucuronidase-catalyzed hydrolysis of FDGlcU can be followed by fluorescence increase around 520 nm. Alternatively, FDGlcU can also be used to detect glucuronidase in a chromogenic mode since the enzymatic product (fluorescein) exhibits a large extinction coefficient (close to 100,000 $\text{cm}^{-1}\text{mol}^{-1}$). FDGlcU has been used for identifying GUS-positive cells with fluorescence microscopy and flow cytometry.