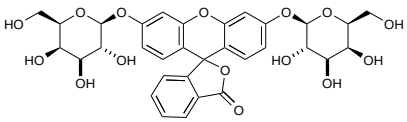
FDG [Fluorescein di-beta-D-galactopyranoside] *CAS#: 17817-20-8*

Catalog Number: 14001
Unit Size: 5 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid light yellow
Molecular Weight	656.58
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	498 nm
Emission Wavelength	517 nm

Applications

Although chromogenic assays of beta-galactosidase activity (i.e. X-Gal) are still widely used, the recent advance in fluorescence instrumentation has made fluorogenic substrates (such as FDG and MUG) be several orders of magnitude more sensitive. FDG is considered to be one of the most sensitive fluorogenic substrates available for detecting beta-galactosidase. The colorless and nonfluorescent FDG is hydrolyzed to highly fluorescent fluorescein, which exhibits excellent spectral properties that match the optimal detection window of most fluorescence instruments. Galactosidase-catalyzed hydrolysis of FDG can be followed by fluorescence increase around 520 nm. Alternatively, FDG can also be used to detect β-galactosidase in a chromogenic mode since the enzymatic product (fluorescein) exhibits a large extinction coefficient (close to 100,000 cm-1mol-1). FDG has been widely used for identifying LacZ-positive cells with fluorescence microscopy and flow cytometry. It is also used to detect beta-galactosidase expression in live cells. Fluorescence-based assays employing FDG are also reported to be 100 to 1000-fold more sensitive than radioisotope-based ELISAs.

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