

XFD430 PEG4 DBCO

Catalog Number: 70026

Unit Size: 1 mg

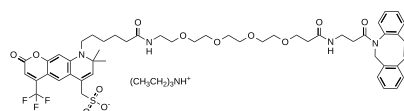
Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	1110.30
Soluble In	DMSO

Chemical Structure



Spectral Properties

Excitation Wavelength	432 nm
Emission Wavelength	540 nm

Applications

XFD430, manufactured by AAT Bioquest, is a green-fluorescent dye that is structurally similar to Alexa Fluor™ 430 (Thermo Fisher). With excitation and emission maxima at 432 nm and 540 nm, respectively, it is optimally excited by a 405 nm violet laser. Its large Stokes shift reduces spectral overlap with blue-emitting fluorophores, providing a superior signal-to-noise ratio in multiplexed fluorescence assays. The dye incorporates a PEG4 linker, significantly enhancing its aqueous solubility, while maintaining pH stability across a wide range (pH 4–10). These properties make XFD430 particularly well-suited for applications requiring robust and reproducible fluorescence signals, such as fluorescence microscopy and flow cytometry.

The DBCO derivative of XFD430 is a highly reactive cycloalkyne optimized for copper-free click chemistry (SPAAC, strain-promoted azide-alkyne cycloaddition). This derivative exhibits a significantly higher reaction rate with azides compared to other cycloalkynes and copper-catalyzed click reactions (CuAAC). Uniquely, DBCO does not react with tetrazines, allowing for its use in bioorthogonal reactions alongside trans-cyclooctenes and tetrazines. For applications where the presence of copper is problematic, XFD430 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes.