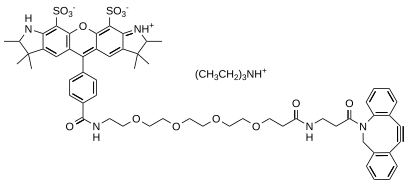
XFD532 PEG4 DBCO

Catalog Number: 1719
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	1233.50
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	534 nm
Emission Wavelength	553 nm

Applications

XFD532, manufactured by AAT Bioquest, is structurally similar to Alexa Fluor™ 532 (Thermo Fisher). It is a bright yellow-fluorescent dye with an excitation optimized for use with the 532 nm line of the frequency-doubled Nd:YAG laser. The incorporation of a PEG4 linker enhances the aqueous solubility of XFD532, while its pH-insensitivity across a broad pH range (pH 4–10) ensures reliable and stable signal generation under diverse experimental conditions. XFD532 is particularly suited for multicolor fluorescence microscopy and flow cytometry, as well as advanced applications in super-resolution imaging techniques such as dSTORM.

The DBCO derivative of XFD532 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 cyclooctynes 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, XFD532 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes.