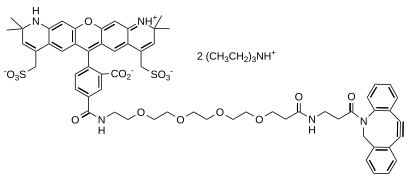
XFD568 PEG4 DBCO

Catalog Number: 70135
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	1200.34
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	579 nm
Emission Wavelength	603 nm

Applications

XFD568, manufactured by AAT Bioquest, is structurally similar to Alexa Fluor™ 568 (Thermo Fisher). This bright orange-fluorescent dye is efficiently excited by the 568 nm line of the AR-Kr mixed-gas laser and is compatible with RFP filters like Texas Red. It demonstrates excellent solubility in aqueous solutions and is pH-insensitive across a broad range (pH 4–10), ensuring reliable and stable signal generation under diverse experimental conditions. XFD568 is particularly well-suited for multicolor fluorescence microscopy, flow cytometry, and advanced imaging techniques like dSTORM. It can be conjugated to proteins at high molar ratios with minimal self-quenching, resulting in brighter conjugates. Moreover, the superior fluorescence quantum yield and photostability of XFD568 make it ideal for detecting low-abundance biological targets, enabling greater precision and sensitivity in quantitative fluorescence assays.

The DBCO derivative of XFD568 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, XFD568 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes.