XFD635 PEG4 DBCO

Catalog Number: 70086
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	N/A
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	633 nm
Emission Wavelength	647 nm

Applications

XFD635, manufactured by AAT Bioquest, is a bright far red-fluorescent dye structurally similar to Alexa Fluor™ 635 (Thermo Fisher). It is characterized by its intense brightness, high fluorescence quantum yield and photostability. The dye demonstrates excellent solubility in aqueous solutions and retains pH-independent fluorescence over a broad range (pH 4–11), ensuring consistent performance across diverse experimental conditions. Optimally excited by the 633 nm emission line of He-Ne lasers or the 635 nm diode laser, XFD635 is particularly well-suited for flow cytometry. Its robust and uniform labeling properties yield high signal intensity and reproducibility, making it an ideal choice for advanced fluorescence imaging, flow cytometry, and various fluorescence-based analytical techniques.

The DBCO derivative of XFD635 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, XFD635 PEG4 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes.