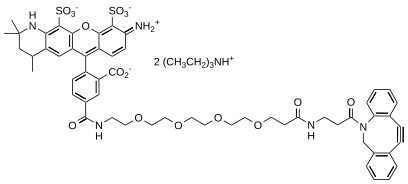
XFD514 PEG4 DBCO

Catalog Number: 70046
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	1324.61
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	518 nm
Emission Wavelength	543 nm

Applications

XFD514, manufactured by AAT Bioquest, is a green-fluorescent dye structurally similar to Alexa Fluor™ 514 (Thermo Fisher). It is characterized by high photostability and exceptional brightness, making it highly suitable for advanced imaging and flow cytometry applications. The dye is water-soluble and remains pH-insensitive within a broad range (pH 4–10), ensuring consistent fluorescence performance across diverse experimental conditions. XFD514 offers robust and reliable labeling, enabling precise and reproducible results in fluorescence-based assays. It also serves as an effective replacement for rhodamine 6G in applications requiring enhanced performance.

The DBCO derivative of XFD514 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, XFD514 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes.