ATTO 532 PEG4 DBCO

Catalog Number: 2821
Unit Size: 1 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	24 months upon recieving

Chemical Properties

Appearance	Solid
Molecular Weight	1189.40
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	531 nm
Emission Wavelength	552 nm

Applications

ATTO 532 is a rhodamine-based fluorescent dye notable for its high molar absorptivity and fluorescence quantum yield (0.90), providing robust signal intensity in fluorescence applications. Its combination of photostability, aqueous solubility, and sufficient Stokes shift makes it suitable for single-molecule detection and high-resolution microscopy techniques, including SIM and STED microscopy. ATTO 532 is also effective in flow cytometry, FISH, and a variety of biological assays, offering flexibility for diverse fluorescence-based experimental protocols. The dye is optimally excited within the 515-545 nm range, with a frequency-doubled Nd:YAG laser at 532 nm serving as an ideal excitation source. The DBCO derivative of ATTO 532 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, ATTO 532 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes.