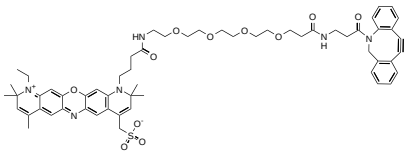
AATOM™ 700 PEG4 DBCO

Catalog Number: 70305
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	1071.30
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	699 nm
Emission Wavelength	715 nm

Applications

AATOM™ 700 is a near-infrared fluorescent dye characterized by its strong absorption, high photo and thermal stability, and good aqueous solubility. It is optimally excited within the 670-715 nm wavelength range. As a zwitterionic compound, AATOM™ 700 remains electrically neutral when conjugated to biomolecules or other substrates. Its strong electron-accepting properties result in efficient fluorescence quenching by electron donors such as guanine and tryptophan. These properties make AATOM™ 700 ideal for precise applications including single-molecule detection and super-resolution microscopy techniques like PALM, dSTORM, and STED. Furthermore, AATOM™ 700 is compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and a variety of other biological assays, making it a versatile tool in advanced fluorescence-based research.

The DBCO derivative of AATOM™ 700 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, AATOM™ 700 PEG4 DBCO serves as an effective alternative to copper-dependent fluorescent alkynes. This product is manufactured by AAT Bioquest and is not affiliated with ATTO-TEC GmbH.