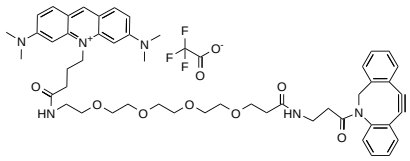
AATOM™ 495 DBCO

Catalog Number: 70225
Unit Size: 1 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid dark red
Molecular Weight	971.09
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	497 nm
Emission Wavelength	525 nm

Applications

AATOM™ 495 is a green fluorescent dye derived from acridine orange, known for its strong absorption, high fluorescence quantum yield, excellent photostability, and superior thermal stability. It exhibits moderate hydrophilicity and is highly soluble in polar solvents such as DMF and DMSO, with an optimal excitation range of 465-510 nm. Notably, AATOM™ 495 exhibits intense and long-lived phosphorescence in solid matrices or at low temperatures. This dye is well-suited for advanced applications in single-molecule detection and high-resolution microscopy techniques, such as PALM, dSTORM, and STED microscopy. It is also compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and a wide range of other biological assays.

The DBCO derivative of AATOM™ 495 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™ 495 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.