

AATOM™ 425 DBCO

Catalog Number: 70215

Unit Size: 1 mg

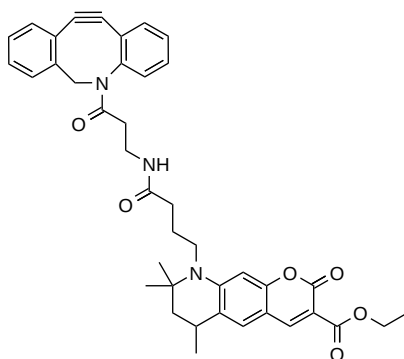
Product Details

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

Chemical Properties

Appearance	Solid yellow
Molecular Weight	659.78
Soluble In	DMSO

Chemical Structure



Spectral Properties

Excitation Wavelength	438 nm
Emission Wavelength	484 nm

Applications

AATOM™ 425 is a coumarin-based fluorescent dye characterized by its high fluorescence quantum yield, large Stokes shift, excellent photostability, and low molecular weight. It exhibits moderate hydrophilicity and is optimally excited in the 405-455 nm wavelength range. These properties make AATOM™ 425 particularly suitable for applications in single-molecule detection and high-resolution microscopy techniques, including PALM, dSTORM, and STED microscopy. Additionally, AATOM™ 425 is well-suited for use in flow cytometry (FACS), fluorescence in situ hybridization (FISH), and various other biological assays.

The DBCO derivative of AATOM™ 425 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 cycloalkynes 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™ 425 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.