

AATOM™ 620 DBCO

Catalog Number: 70265

Unit Size: 1 mg

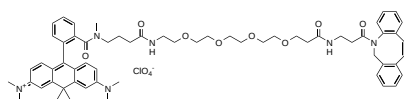
Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	1117.74
Soluble In	DMSO

Chemical Structure



Spectral Properties

Excitation Wavelength	619 nm
Emission Wavelength	641 nm

Applications

AATOM™ 620 is a bright-red fluorescent dye, characterized by its strong absorption, exceptional photo and thermal stability, and temperature-dependent fluorescence. It demonstrates moderate hydrophilicity and optimal excitation within the 600-630 nm wavelength range. The dye maintains stable fluorescence over a wide pH range (2-11), allowing for its use in diverse experimental conditions. Upon conjugation to a substrate, AATOM™ 620 becomes cationic, carrying a net positive charge of +1. These properties make AATOM™ 620 particularly suitable for high-precision applications, including single-molecule detection and super-resolution microscopy techniques such as PALM, dSTORM, and STED. Additionally, it is compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and various other biological assays.

The DBCO derivative of AATOM™ 620 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™ 620 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.