

AATOM™ 488 DBCO

Catalog Number: 2819

Unit Size: 1 mg

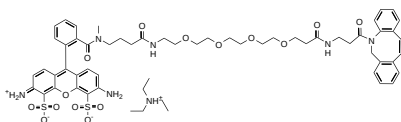
Product Details

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

Chemical Properties

Appearance	Solid orange-red
Molecular Weight	1196.40
Soluble In	DMSO

Chemical Structure



Spectral Properties

Excitation Wavelength	499 nm
Emission Wavelength	520 nm

Applications

AATOM™ 488 is a hydrophilic, rhodamine-based fluorescent dye with exceptional water solubility. It is characterized by strong absorption, a high fluorescence quantum yield, and exceptional photostability, making it highly suitable for advanced fluorescence imaging techniques. The dye exhibits optimal excitation within the 480-515 nm wavelength range, aligning precisely with the 488 nm emission line of the Argon-Ion laser. AATOM™ 488 is particularly effective for single-molecule detection and super-resolution microscopy methods such as PALM, dSTORM, and STED. Moreover, it is well-suited for flow cytometry (FACS), fluorescence in situ hybridization (FISH), and other bioanalytical applications.

The DBCO derivative of AATOM™ 488 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™ 488 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.