

# AATOM™ 550 DBCO

Catalog Number: 70235

Unit Size: 1 mg

## Product Details

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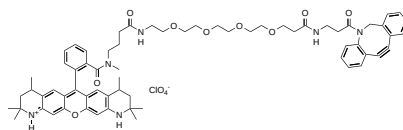
Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

## Chemical Properties

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Appearance	Solid dark red
Molecular Weight	1199.84
Soluble In	DMSO

Chemical Structure



## Spectral Properties

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Excitation Wavelength	553 nm
Emission Wavelength	574 nm

## Applications

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AATOM™ 550 is an orange fluorescent dye chemically related to the well-known Rhodamine 6G and Rhodamine B dyes. It is characterized by a strong absorption, a high fluorescence quantum yield, and excellent photostability and thermal stability. This dye exhibits moderate hydrophilicity, with an optimal excitation range of 540-565 nm. AATOM™ 550 is cationic and carries a net electrical charge of +1 after coupling to a substrate. This dye is well-suited for advanced applications in single-molecule detection and high-resolution microscopy techniques, including PALM, dSTORM, and STED microscopy. It is also compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and a variety of other biological assays. AATOM™ 550 can be used with excitation sources and fluorescence filters similar to those for Cy3® and TAMRA.

The DBCO derivative of AATOM™ 550 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™ 550 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.