

# AATOM™ 532 PEG4 DBCO

Catalog Number: 2821

Unit Size: 1 mg

## Product Details

---

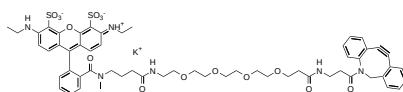
Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	24 months upon receiving

## Chemical Properties

---

Appearance	Solid red
Molecular Weight	1189.40
Soluble In	DMSO

Chemical Structure



## Spectral Properties

---

Excitation Wavelength	531 nm
Emission Wavelength	552 nm

## Applications

---

AATOM™ 532 is a rhodamine-based fluorescent dye notable for its high molar absorptivity and fluorescence quantum yield (0.90), providing robust signal intensity in fluorescence applications. Its combination of photostability, aqueous solubility, and sufficient Stokes shift makes it suitable for single-molecule detection and high-resolution microscopy techniques, including SIM and STED microscopy. AATOM™ 532 is also effective in flow cytometry, FISH, and a variety of biological assays, offering flexibility for diverse fluorescence-based experimental protocols. The dye is optimally excited within the 515-545 nm range, with a frequency-doubled Nd:YAG laser at 532 nm serving as an ideal excitation source.

The DBCO derivative of AATOM™ 532 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™ 532 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.