

**AATOM™ 425 BCN**

Catalog Number: 70551

Unit Size: 1 mg

**Product Details**

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

**Chemical Properties**

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Appearance	Solid
Molecular Weight	N/A
Soluble In	DMSO

**Spectral Properties**

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Excitation Wavelength	438 nm
Emission Wavelength	484 nm

**Applications**

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AATOM™ 425 BCN is a clickable derivative of AATOM™ 425, a blue fluorescent dye designed for labeling peptides, oligonucleotides, and other biomolecules. AATOM™ 425 is characterized by a high fluorescence quantum yield, a large Stokes shift, good photostability, and a low molecular weight. It exhibits moderate hydrophilicity and is optimally excited within the 405-455 nm range, with mercury arc lamps (emission lines at 365 nm and 405 nm) providing effective excitation.

To improve conjugation performance, AATOM™ 425 BCN incorporates a PEG spacer, which reduces steric hindrance and minimizes potential interference with target binding sites. This design maximizes conjugation efficiency while preserving the biological activity of the resulting conjugate. The bicyclononyne (BCN) moiety enables strain-promoted azide-alkyne cycloaddition (SPAAC) with azido groups, forming stable triazole linkages under catalyst-free conditions. In addition, unlike dibenzocyclooctyne (DBCO), BCN also reacts efficiently with tetrazines through an inverse electron-demand Diels-Alder (IEDDA) reaction. This reaction is rapid, selective, and bioorthogonal, allowing labeling of biomolecules under physiological conditions without the need for metal catalysts or disruption of native biological processes.

This product is manufactured by AAT Bioquest and is not affiliated with ATTO-TEC GmbH.