AATOM™ 488 BCN

Catalog Number: 70552
Unit Size: 1 mg

Product Details

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

Chemical Properties

Appearance	Solid orange-red
Molecular Weight	1085.30
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	499 nm
Emission Wavelength	520 nm

Applications

AATOM™ 488 BCN is a clickable derivative of AATOM™ 488, a green fluorescent dye designed for labeling peptides, oligonucleotides, and other biomolecules. AATOM™ 488 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.

To improve conjugation performance, AATOM™ 488 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.