Cy3 BCN

Catalog Number: 70540
Unit Size: 1 mg

Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	N/A
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	555 nm
Emission Wavelength	569 nm

Applications

Cy3-BCN is a bioorthogonally clickable derivative of Cy3, a widely used orange fluorescent dye for labeling biomolecules such as peptides and oligonucleotides. Cy3 is well known for its strong fluorescence intensity and high photostability, providing an excellent signal-to-noise ratio in imaging and detection applications. To improve conjugation performance, Cy3-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.