Cy5 BCN

Catalog Number: 70542
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	651 nm
Emission Wavelength	670 nm

Applications

Cy5 BCN is a clickable derivative of Cy5, a popular far-red fluorescent dye used for labeling peptides, oligonucleotides, and other biomolecules. Cy5 is characterized by a strong fluorescence intensity, high photostability, and compatibility as an acceptor fluorophore in FRET assays with Cy3 as the donor. To improve conjugation performance, Cy5-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.