

## 6-HEX BCN

Catalog Number: 70520

Unit Size: 1 mg

### Product Details

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Storage Conditions Freeze (&lt; -15 °C), Minimize light exposure

Expiration Date

### Chemical Properties

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Appearance Solid

Molecular Weight N/A

Soluble In DMSO

### Spectral Properties

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Excitation Wavelength 533 nm

Emission Wavelength 559 nm

### Applications

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6-HEX BCN is a clickable derivative of 6-carboxy-2',4,4',5',7,7'-hexachlorofluorescein (6-HEX) widely used for labeling biomolecules such as oligonucleotides. 6-HEX is a popular yellow fluorescent dye known for its strong fluorescence, high photostability, and minimal pH sensitivity within the physiological range. To improve bioconjugation performance, it incorporates a PEG spacer that reduces steric hindrance and minimizes interference from the binding site 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.