

6-JOE BCN

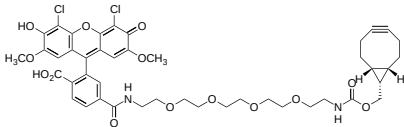
Catalog Number: 70523

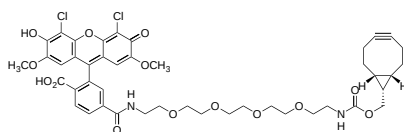
Unit Size: 1 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid
Molecular Weight	899.76
Soluble In	DMSO
Chemical Structure	



Spectral Properties

Excitation Wavelength	520 nm
Emission Wavelength	545 nm

Applications

6-JOE BCN is a clickable derivative of 6-Carboxy-4',5'-dichloro-2',7'-dimethoxyfluorescein (6-JOE) widely used for labeling biomolecules such as oligonucleotides. 6-JOE is a popular yellow-green 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.