

## DBCO-PEG5-NHS Ester

Catalog Number: 4526

Unit Size: 1 mg

### Product Details

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

### Chemical Properties

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Appearance	Solid
Molecular Weight	693.75
Soluble In	DMSO

### Spectral Properties

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Excitation Wavelength	N/A
Emission Wavelength	N/A

### Applications

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The Cu-free click reaction, known as the strain-promoted alkyne-azide cycloaddition (SPAAC), is a bioorthogonal reaction that uses cyclooctynes and azides as reagents. This reaction is selective and efficient, reacting exclusively with each other while remaining inert to naturally occurring functional groups such as hydroxy, amino, and thiol groups. SPAAC allows for the labeling of a wide variety of biomolecules in aqueous and complex chemical environments by forming a stable triazole. Among the various cyclooctynes, dibenzocyclooctyne (DBCO) compounds are notable for their fast kinetics and good stability in aqueous buffers. Within physiological temperature and pH ranges, DBCO does not react with thiol, amino, or hydroxy groups that are naturally present in many biomolecules. DBCO-PEG5-NHS Ester is a specific and efficient reagent that reacts with primary amines (e.g., lysine residues or aminosilane-coated surfaces) at pH 7-9 to form a covalent bond. The hydrophilic polyethylene glycol (PEG) spacer arm in these reagents imparts water solubility to the labeled molecule, reducing aggregation of labeled proteins stored in solution. Additionally, the PEG spacer arm provides a long and flexible connection that minimizes steric hindrance during ligation to complementary azide-containing molecules.