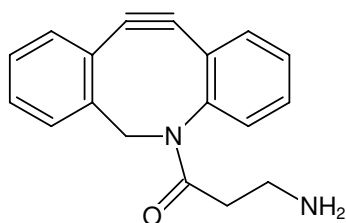


**DBCO-Amine**

Dibenzylcyclooctyne-Amine

Cat. No.	Amount
CLK-A103-25	25 mg
CLK-A103-100	100 mg
CLK-A103-1000	1 g



Structural formula of DBCO-Amine

For research use only!**Shipping:** shipped at ambient temperature**Storage Conditions:** store at -20 °C**Shelf Life:** 12 months after date of delivery**Molecular Formula:** C₁₈H₁₆N₂O**Molecular Weight:** 276.33 g/mol**CAS#:** 1255942-06-3**Purity:** > 95 % (HPLC, H NMR)**Form:** slightly yellow to slightly orange solid**Solubility:** DCM, DMF, DMSO, THF**Applications:**

Protein-peptide conjugates

Peptide-small molecule conjugates

¹⁸F radiolabelling

Protein-oligonucleotide conjugates

Surface modification

Description:

Simple carbonyl/carboxyl reactive dibenzylcyclooctyne. Applicable for the modification of surfaces and particles with terminal acids, active esters and aldehydes and for the introduction of dibenzylcyclooctyne into organic/inorganic compounds.

Important Product Information

Do not use DTT, TCEP or β-mercaptoethanol, because they will reduce the azide.

Copper-free Click Reaction

- Prepare the azide-containing sample in reaction buffer.
- Add DBCO-protein conjugate to azide-containing sample.
- Recommendation: Add 1 mol equivalent of limiting protein to 1.5 - 3.0 mol equivalents of highest abundance protein.
- Incubate the reaction at room temperature for 2 - 4 hours or at 4 °C for 2 - 12 hours.
- The reaction is now ready for purification.

Troubleshooting**Problem:** Low conjugation of DBCO and azide

- Possible reason: Suboptimal reaction conditions
 - Increase incubation time
 - Optimize conjugation conditions by altering molar excess
 - Perform conjugation reactions at 37 °C

Selected References:

Kuppevelt *et al.* (2017) Sequencing of glycosaminoglycans with potential to interrogate sequence-specific interactions. *Scientific Reports* **7**:14785.

Simon *et al.* (2012) Facile Double-Functionalization of Designed Ankyrin Repeat Proteins using Click and Thiol Chemistries. *Bioconjugate Chem.* **23** (2):279.

Zeng *et al.* (2012). ⁶⁴Cu Core-Labeled Nanoparticles with High Specific Activity via Metal-Free Click Chemistry. *ACS Nano.* **6** (6):5209.

Arumugam *et al.* (2011). [¹⁸F]Azadibenzocyclooctyne ([¹⁸F]ADIBO): A biocompatible radioactive labeling synthon for peptides using catalyst free

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[3+2] cycloaddition. *Bioorg. Med. Chem. Lett.* **21**:6987.

Campbell-Verduyn *et al.* (2011). Strain-Promoted Copper-Free Click Chemistry for ^{18}F Radiolabeling of Bombesin. *Angew. Chem. Int. Ed.* **50**:11117.

Debets *et al.* (2010) Aza-dibenzocyclooctynes for fast and efficient enzyme PEGylation via copper-free (3+2) cycloaddition. *Chem. Commun.* **46**:97.