

## Click Chemistry Tools

Click chemistry describes a class of chemical reactions that use bio-orthogonal or biologically unique moieties to label and detect a molecule of interest in mild, aqueous conditions. Click chemistry reactions can be categorized into two separate groups: (1) Cu(I)-catalyzed Azide-Alkyne Click chemistry reaction (CuAAC); (2) Strain-promoted Azide-Alkyne Click chemistry reaction (SPAAC).

### FEATURES

- Efficiency—the click reaction is complete in less than 1 hour;
- Specificity—the reaction between the label and detection tag is selective and specific;
- Stability—the reaction product contains an irreversible, covalent bond;
- Biologically inert—the components of the reaction do not undergo any side reactions.

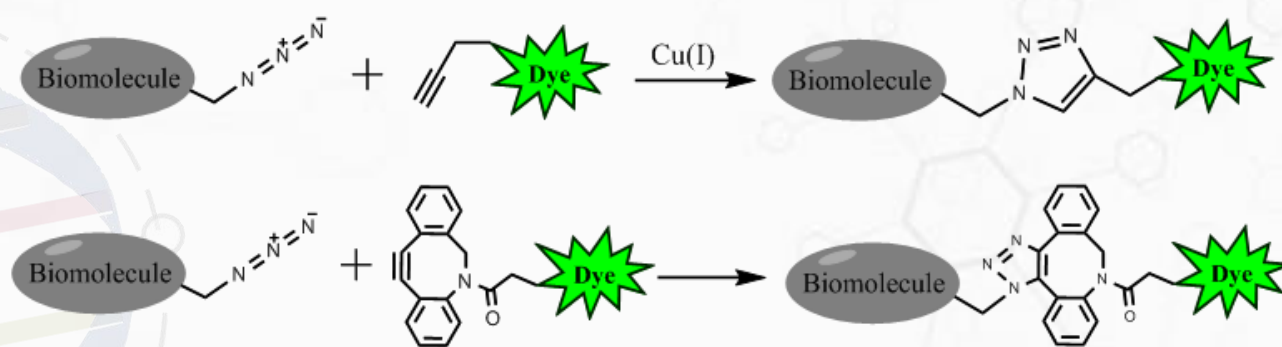


Figure 1. Click chemistry labeling

Table 1. Alkyne-modified biotin and fluorophores

Cat. No.	Product Name	Ex/Em (nm)
C303	Biotin Alkyne	-
C305	5-FAM Alkyne	495/518
C307	5-TAMRA Alkyne	555/575
C309	Texas Red Alkyne	594/614
C311	Cy3 Alkyne	555/565
C313	Cy5 Alkyne	650/665
C315	Andy Fluor™ 350 Alkyne	350/440
C317	Andy Fluor™ 488 Alkyne	505/526
C319	Andy Fluor™ 555 Alkyne	553/565
C321	Andy Fluor™ 594 Alkyne	590/615
C323	Andy Fluor™ 647 Alkyne	650/666

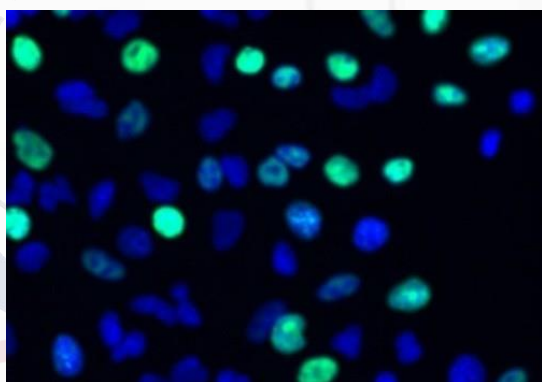
Table 2. Azide-modified biotin and fluorophores

Cat. No.	Product Name	Ex/Em (nm)
C304	Biotin Azide	-
C306	5-FAM Azide	495/518
C308	5-TAMRA Azide	555/575
C310	Texas Red Azide	594/614
C312	Cy3 Azide	555/565
C314	Cy5 Azide	650/665
C316	Andy Fluor™ 350 Azide	350/440
C318	Andy Fluor™ 488 Azide	505/526
C320	Andy Fluor™ 555 Azide	553/565
C322	Andy Fluor™ 594 Azide	590/615
C324	Andy Fluor™ 647 Azide	650/666

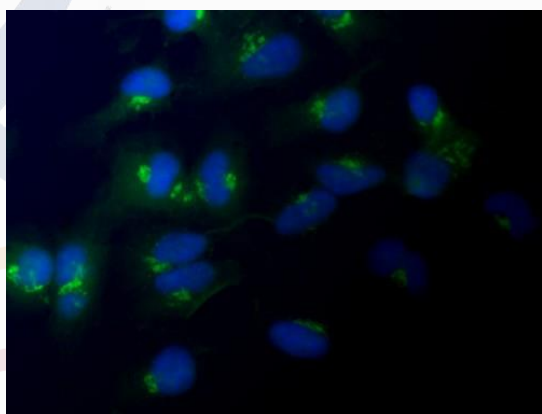
**Table 3.** Picolyl azide-modified biotin and fluorophores

Cat. No.	Product Name	Ex/Em (nm)
C303	Biotin Alkyne	-
C305	5-FAM Alkyne	495/518
C307	5-TAMRA Alkyne	555/575
C309	Texas Red Alkyne	594/614
C311	Cy3 Alkyne	555/565
C313	Cy5 Alkyne	650/665
C315	Andy Fluor™ 350 Alkyne	350/440
C317	Andy Fluor™ 488 Alkyne	505/526
C319	Andy Fluor™ 555 Alkyne	553/565
C321	Andy Fluor™ 594 Alkyne	590/615
C323	Andy Fluor™ 647 Alkyne	650/666

**Note:** Picolyl azide uses less copper concentration than standard click reactions to protect against undesired copper side reactions with proteins (e.g., GFP, RPE), nucleic acids (e.g., RNA, oligos), and even small molecules (e.g., phalloidin).



Cells are labeled with EdU, followed by click detection with Andy Fluor 488 azide

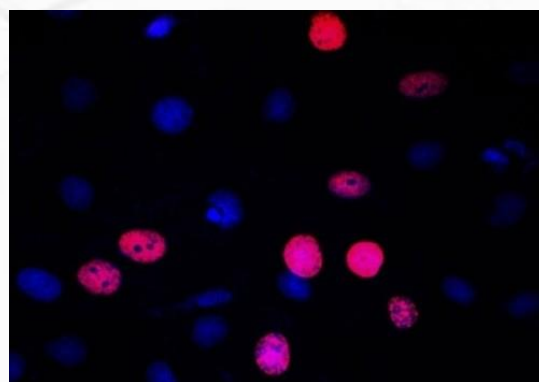


Cells are labeled with ManNAz, followed by click detection with Andy Fluor 488 alkyne

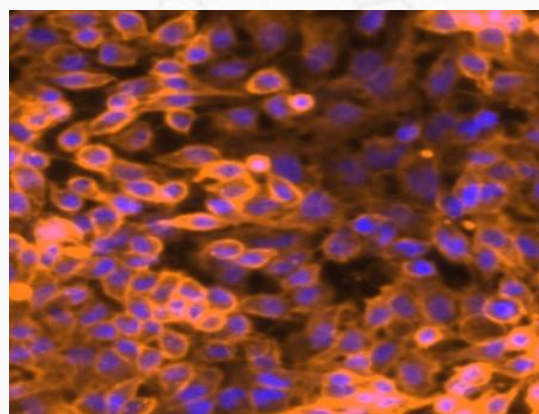
**Table 4.** DBCO-modified biotin and fluorophores

Cat. No.	Product Name	Ex/Em (nm)
C304	Biotin Azide	-
C306	5-FAM Azide	495/518
C308	5-TAMRA Azide	555/575
C310	Texas Red Azide	594/614
C312	Cy3 Azide	555/565
C314	Cy5 Azide	650/665
C316	Andy Fluor™ 350 Azide	350/440
C318	Andy Fluor™ 488 Azide	505/526
C320	Andy Fluor™ 555 Azide	553/565
C322	Andy Fluor™ 594 Azide	590/615
C324	Andy Fluor™ 647 Azide	650/666

**Note:** DBCO reagents are used to perform click reactions with azide-modified targets without the use of heavy metal catalysis. DBCO reactions are ideal for surface labeling of live cells and also minimize damage to fluorescent proteins like GFP or R-PE.



Cells are labeled with EdU, followed by click detection with Andy Fluor 594 picolyl azide



Cells are labeled with GlcNAz, then live cells are labeled with Andy Fluor 555 DBCO