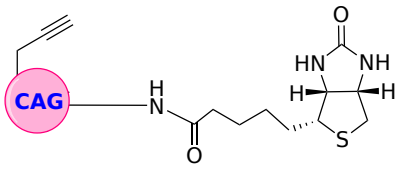
# FastClick™ Biotin Alkyne

Catalog Number: 72901
Unit Size: 1 mg

## Product Details

| | |
|---|---|
| Storage Conditions | Freeze (< -15 °C), Minimize light exposure |
| Expiration Date | 24 months upon receiving |

## Chemical Properties

| | |
|---|---|
| Appearance | Solid |
| Molecular Weight | 552.74 |
| Soluble In | DMSO |
| Chemical Structure |  |



**[CAG=Click-Assisting Group]**

## Spectral Properties

| | |
|---|---|
| Excitation Wavelength | N/A |
| Emission Wavelength | N/A |

## Applications

FastClick™ Biotin Alkyne contains both the CAG moiety of FastClick (for assisting click efficiency) and biotin (as the detection tag) for developing biotin-based probes. It readily reacts with an azido-containing biomolecule under extremely mild conditions. Biotin is one of the most commonly used tags that finds a variety of utilities in biological detections. Its conjugates are widely used in fluorescence imaging, fluorescence in situ hybridization (FISH) and nucleic acid detections in combination with the fluorescence-labeled streptavidin, avidin or NeutrAvidin® or other biotin-binding protein conjugates. AAT Bioquest offers the largest collection of biotin and streptavidin products for immunological detections. FastClick™ reagents have been developed by the scientists of AAT Bioquest for enhancing the yield and reaction speed of copper-catalyzed azide-alkyne cycloaddition (CuAAC) reaction. They contain a copper-chelating ligand that significantly stabilizes the Cu(I) oxidation state and thus accelerates the click reaction. They do not require the use of an external copper-chelator (such as the common THPTA or BTTAA). The high concentration of copper chelators is known to have a detrimental effect on DNA/RNA, thus causing biocompatibility issues. The introduction of a copper-chelating moiety at the reporter molecule allows for a dramatic raise of the effective Cu(I) concentration at the reaction site and thus accelerates the reaction. Under extremely mild conditions the FastClick™ azides and alkynes react much faster in high yield compared to the corresponding conventional CuAAC reactions.