

FastClick™ XFD555 Alkyne

Catalog Number: 72877

Unit Size: 1 mg

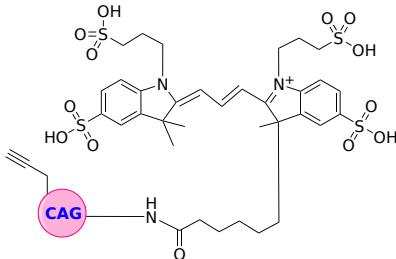
Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	1255.42
Soluble In	DMSO

Chemical Structure



[CAG = Click-Assisting Group]

Spectral Properties

Excitation Wavelength	553 nm
Emission Wavelength	568 nm

Applications

FastClick™ XFD555 Alkyne contains both the CAG moiety of FastClick (for assisting click efficiency) and Alexa Fluor® 555 fluorophore (as the fluorescence tag) for developing Alexa Fluor® 555-based fluorescent probes. FastClick™ XFD555 Alkyne readily reacts with azido-modified biomolecules with high yields. Alexa Fluor® 555 is a commonly used orange-red fluorophore for labeling proteins, nucleic acids, or other biomolecules. It has moderate photostability and excitation that matches the common 555 nm laser line that is equipped with almost most of the major fluorescence instruments. Its conjugates are widely used for imaging and flow cytometry applications in combination with the widely available Cy3 filter set. It is a water-soluble Cy3 derivative that has pH-insensitive fluorescence from pH 4 to pH 10. Alexa Fluor® is a trademark of ThermoFisher Scientific. FastClick™ reagents have been developed by the scientists of AAT Bioquest for enhancing the yield and reaction speed of copper-catalyzed azido-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.