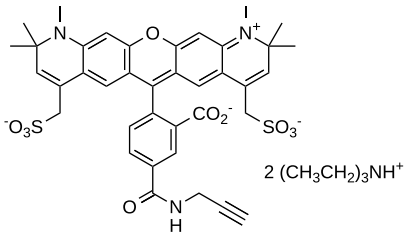
# XFD594 alkyne

Catalog Number: 1730
Unit Size: 1 mg

## Product Details

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

## Chemical Properties

| | |
|---|---|
| Appearance | Solid |
| Molecular Weight | 759.85 |
| Soluble In | DMSO |
| Chemical Structure |  |



## Spectral Properties

| | |
|---|---|
| Excitation Wavelength | 590 nm |
| Emission Wavelength | 618 nm |

## Applications

XFD594, manufactured by AAT Bioquest, is structurally similar to Alexa Fluor™ 594 (Thermo Fisher). This bright red-fluorescent dye is efficiently excited by the 561 nm or 594 nm laser lines and is compatible with RFP filters like Texas Red. It demonstrates excellent solubility in aqueous solutions and is pH-insensitive across a broad range (pH 4–10), ensuring reliable and stable signal generation under diverse experimental conditions. XFD594 is particularly well-suited for multicolor fluorescence microscopy, flow cytometry, and advanced SRM imaging techniques like dSTORM, SIM, STED and TPE. It can be conjugated to proteins at high molar ratios with minimal self-quenching, resulting in brighter conjugates. Moreover, the superior fluorescence quantum yield and photostability of XFD594 make it ideal for detecting low-abundance biological targets, enabling greater precision and sensitivity in quantitative fluorescence assays.

The alkyne derivative of XFD594 is widely used for labeling azides on peptides, antibodies, and other biomolecules via click chemistry. It participates in copper-catalyzed azide-alkyne cycloaddition (CuAAC) with azide-containing molecules.