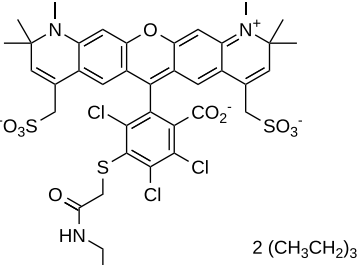


## Unit Size: 1 mg

## Product Details

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

## Chemical Properties

|                    |  |
|--------------------|--|
| Appearance         | Solid  |
| Molecular Weight   | 1193.66  |
| Soluble In         | DMSO   |
| Chemical Structure |  |

## Spectral Properties

|                       |        |
|-----------------------|--------|
| Excitation Wavelength | 611 nm |
| Emission Wavelength   | 629 nm |

## Applications

XFD610, manufactured by AAT Bioquest, is a red-fluorescent dye that is structurally similar to Alexa Fluor™ 610 (Thermo Fisher). The dye exhibits high photostability and strong fluorescence, making it well-suited for advanced imaging applications and flow cytometry. Its water solubility and pH-independent fluorescence over a broad range (pH 4–10) ensure consistent performance under diverse experimental conditions. XFD610 enables reproducible labeling with high signal intensity, providing reliable results in fluorescence-based assays. Additionally, it serves as a robust alternative to Texas Red™, offering improved optical properties for experiments requiring enhanced fluorescence output.

XFD610 TCO is particularly useful for labeling tetrazine-modified biomolecules under copper-free conditions. It reacts with tetrazine-functionalized molecules, forming a stable conjugate via a dihydropyrazine moiety. This click reaction is favored over others due to its extremely fast kinetics and higher yields under mild reaction conditions, making it a popular choice for researchers.