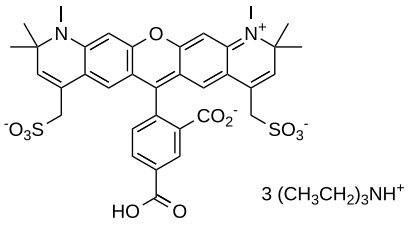
XFD594 acid

Catalog Number: 1794
Unit Size: 5 mg

Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	694.73
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.

XFD594 acid is a non-reactive compound that can be employed as a reference standard in studies utilizing XFD594 conjugates. It is also suitable for use as a control in confocal microscopy, immunocytochemistry (ICC), high-content screening (HCS), flow cytometry, and live cell imaging applications. Furthermore, it can be utilized in the synthesis of activated esters and STP and can be coupled to hydrazines, hydroxylamines, or amines in aqueous solutions using water-soluble carbodiimides (e.g., EDAC). This allows for the conjugation of the dye to amino-containing molecules, such as proteins, antibodies, amine-modified oligonucleotides, and peptides.