XFD750 NHS Ester

Catalog Number: 1839, 71912
Unit Size: 1 mg, 5 mg

Product Details

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

Chemical Properties

Appearance	Solid dark blue
Molecular Weight	~1300
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	752 nm
Emission Wavelength	776 nm

Applications

XFD750, manufactured by AAT Bioquest, is a bright near-infrared fluorescent dye structurally similar to Alexa Fluor™ 750 (Thermo Fisher). It is efficiently excited by the 633 nm laser line and is compatible with the Cy7 filter set, making it well-suited for applications such as fluorescence microscopy and flow cytometry. The dye demonstrates excellent aqueous solubility and maintains pH stability across a broad range (pH 4–10), ensuring reliable and reproducible fluorescence signals under diverse experimental conditions. Its long-wavelength emission effectively reduces background autofluorescence, enhancing signal-to-noise ratios in complex biological samples, particularly in tissue imaging. Furthermore, XFD750 is widely utilized in stochastic optical reconstruction microscopy (STORM), providing exceptional performance in both dSTORM and nSTORM super-resolution imaging techniques.

The N-hydroxysuccinimidyl (NHS) ester of XFD750 is a widely used reagent for the conjugation of this dye to proteins or antibodies. NHS esters react selectively and efficiently with primary amines (such as the side chains of lysine residues or aminosilane-coated surfaces) at pH 7-9, forming stable covalent amide bonds. This property makes XFD750 NHS ester an excellent choice for labeling proteins, amine-modified oligonucleotides, and other amine-containing molecules.