

XFD555 TCO

Catalog Number: 1726

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	N/A
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	553 nm
Emission Wavelength	568 nm

Applications

XFD555, manufactured by AAT Bioquest, is structurally similar to Alexa Fluor™ 555 (Thermo Fisher). It is a bright orange-fluorescent dye with an excitation optimized for use with either the 488 nm line of the argon-ion laser or the 532 nm line of the frequency-doubled Nd:YAG laser. The high fluorescence quantum yield and high photostability of XFD555 allow for the detection of low-abundance biological structures with great sensitivity. XFD555 demonstrates good aqueous solubility and pH-insensitivity over a broad pH range (pH 4–10), ensuring stable fluorescence generation under varying experimental conditions. XFD555 dye molecules can be attached to proteins at high molar ratios without significant self-quenching, enabling brighter conjugates and more sensitive detection in imaging and flow cytometry.

XFD555 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.