

XFD405 TCO

Catalog Number: 70016

Unit Size: 1 mg

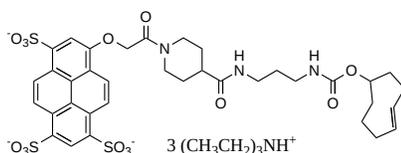
Product Details

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

Chemical Properties

Appearance	Solid yellow-green
Molecular Weight	1139.49
Soluble In	DMSO

Chemical Structure



Spectral Properties

Excitation Wavelength	401 nm
Emission Wavelength	421 nm

Applications

XFD405, manufactured by AAT Bioquest, is a blue-fluorescent dye that is structurally similar to Alexa Fluor™ 405 (Thermo Fisher). This dye is water-soluble and optimized for excitation by the 407 nm krypton laser line or the 408 nm violet laser diode, making it suitable for a range of fluorescence-based techniques. XFD405 is pH-insensitive across a wide range (pH 4 - 10) and exhibits minimal quenching when conjugated to proteins, ensuring consistent fluorescence signals in live-cell imaging. With an excitation maximum at 401 nm and emission at 422 nm, XFD405 is well-suited for multicolor flow cytometry and super-resolution microscopy (STORM), providing reliable performance in applications requiring distinct spectral separation and photostability.

XFD405 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.