XFD680 azide

Catalog Number: 70104
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	681 nm
Emission Wavelength	704 nm

Applications

XFD680, manufactured by AAT Bioquest, is a bright near-infrared fluorescent dye structurally similar to Alexa Fluor™ 680 (Thermo Fisher). It exhibits a high fluorescence quantum yield, excellent photostability, and superior aqueous solubility, ensuring consistent and reliable performance in various applications. Its pH-independent fluorescence across a broad range (pH 4–11) allows it to maintain stability under diverse experimental conditions. The dye also enables high molar ratio protein conjugation with minimal self-quenching, producing brighter conjugates and enhancing detection sensitivity. Its long-wavelength emission minimizes interference from autofluorescent background signals, enabling accurate detection in complex biological systems.

XFD680 is optimized for red laser excitation and is compatible with flow cytometers equipped with spectral detection systems. It delivers robust and uniform labeling, with high signal intensity and reproducibility, making it ideal for fluorescence imaging, flow cytometry, and other analytical techniques. XFD680 is also widely utilized in advanced applications such as multiplexed western blot detection and stochastic optical reconstruction microscopy (STORM), where its superior photophysical properties enhance resolution and sensitivity.

The azide derivative of XFD680 is widely used for labeling terminal alkynes on peptides, antibodies, and other biomolecules via click chemistry. It participates in copper-catalyzed azide-alkyne cycloaddition (CuAAC) with alkyne-containing molecules and strain-promoted alkyne-azide cycloaddition (SPAAC) with DBCO- or BCN-containing molecules.