

# XFD568 Tetrazine

Catalog Number: 70137

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	877.94
Soluble In	DMSO
Chemical Structure	

## Spectral Properties

Excitation Wavelength	579 nm
Emission Wavelength	603 nm

## Applications

XFD568, manufactured by AAT Bioquest, is structurally similar to Alexa Fluor™ 568 (Thermo Fisher). This bright orange-fluorescent dye is efficiently excited by the 568 nm line of the AR-Kr mixed-gas laser 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. XFD568 is particularly well-suited for multicolor fluorescence microscopy, flow cytometry, and advanced imaging techniques like dSTORM. 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 XFD568 make it ideal for detecting low-abundance biological targets, enabling greater precision and sensitivity in quantitative fluorescence assays.

XFD568 tetrazine is particularly useful for labeling TCO-modified biomolecules under copper-free conditions. It reacts with TCO-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.