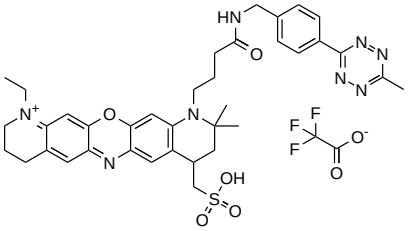
AATOM™ 655 Tetrazine

Catalog Number: 70287
Unit Size: 1 mg

Product Details

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

Chemical Properties

Appearance	Solid blue
Molecular Weight	824.88
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	661 nm
Emission Wavelength	679 nm

Applications

AATOM™ 655 is a far-red fluorescent dye characterized by its strong absorption, high photo and thermal stability, excellent ozone resistance and excellent water solubility. The dye exhibits moderate hydrophilicity and is optimally excited within the 640-660 nm wavelength range, which aligns with the 647 nm line of Krypton-Ion lasers and the 650 nm line of diode lasers. As a zwitterionic compound, AATOM™ 655 remains electrically neutral when conjugated to biomolecules or other substrates. Its strong electron-accepting properties result in efficient fluorescence quenching by electron donors such as guanine and tryptophan. These properties render AATOM™ 655 highly suitable for precise applications including single-molecule detection and super-resolution microscopy techniques like PALM, dSTORM, and STED. Furthermore, AATOM™ 655 is compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and a variety of other biological assays, making it a versatile tool in advanced fluorescence-based research.

AATOM™ 655 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. This product is manufactured by AAT Bioquest and is not affiliated with ATTO-TEC GmbH.