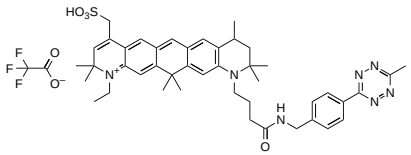
AATOM™ 647 Tetrazine

Catalog Number: 2834
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	890.04
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	646 nm
Emission Wavelength	666 nm

Applications

AATOM™ 647 Tetrazine is manufactured by AAT Bioquest for research and development use. AATOM™ 647 is a rhodamine-derived fluorescent dye optimized for applications within the red spectral region, offering spectral characteristics similar to Cy5. Its characterized by a high molar absorptivity, robust fluorescence quantum yield, high photostability, and good aqueous solubility, making it well-suited for demanding experimental conditions. The dye is highly hydrophilic, with an excitation maximum between the 615-660 nm range, making it compatible with the 633 nm He:Ne laser, 647 nm Krypton-Ion laser, and 650 nm diode laser. As a zwitterionic molecule, AATOM™ 647 carries a net neutral charge. The dye is stable under physiological pH conditions and in buffers with a pH of up to 8, though it gradually degrades at higher pH levels. AATOM™ 647 is ideal for advanced applications in single-molecule detection and high-resolution microscopy techniques, including PALM, dSTORM, and STED microscopy. It is also compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), FRET, and various other biological assays.

AATOM™ 647 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.