

AATOM™ 647 NHS ester

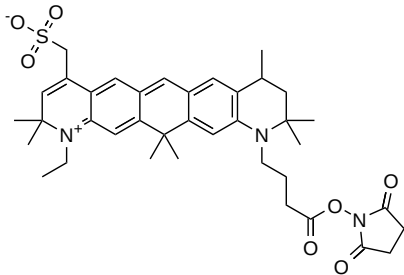
Catalog Number: 2852

Unit Size: 1 mg

Product Details

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

Chemical Properties

Appearance	Solid dark blue
Molecular Weight	869.87
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	646 nm
Emission Wavelength	666 nm

Applications

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.

The N-hydroxysuccinimidyl (NHS) ester of AATOM™ 647 is a widely used reagent for the conjugation of this dye to proteins or antibodies. NHS esters react selectively and efficiently with primary amines (such as the side chains of lysine residues or aminosilane-coated surfaces) at pH 7-9, forming stable covalent amide bonds. This property makes AATOM™ 647 NHS ester an excellent choice for labeling proteins, amine-modified oligonucleotides, and other amine-containing molecules. This product is manufactured by AAT Bioquest and is not affiliated with ATTO-TEC GmbH.