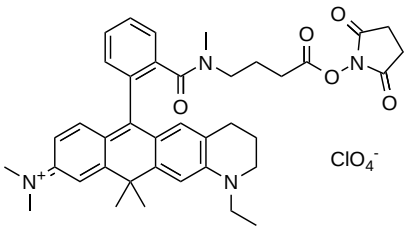
AATOM™ 633 NHS ester

Catalog Number: 70271
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	749.26
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	629 nm
Emission Wavelength	651 nm

Applications

AATOM™ 633 is a bright-red fluorescent dye, characterized by its strong absorption, high fluorescence quantum yield, and exceptional photo and thermal stability. It exhibits moderate hydrophilicity and is optimally excited within the 610-645 nm wavelength range, compatible with both the 633 nm line of the He-Ne laser and the 635 nm line of the diode laser. The dye maintains stable fluorescence over a wide pH range (2-11), allowing for its use in diverse experimental conditions. Upon conjugation to a substrate, AATOM™ 633 becomes cationic, carrying a net positive charge of +1. These properties make AATOM™ 633 particularly suitable for high-precision applications, including single-molecule detection and super-resolution microscopy techniques such as PALM, dSTORM, and STED. Additionally, it is compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and various other biological assays.

The N-hydroxysuccinimidyl (NHS) ester of AATOM™ 633 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™ 633 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.

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