

AATOM™ 680 NHS ester

Catalog Number: 70291

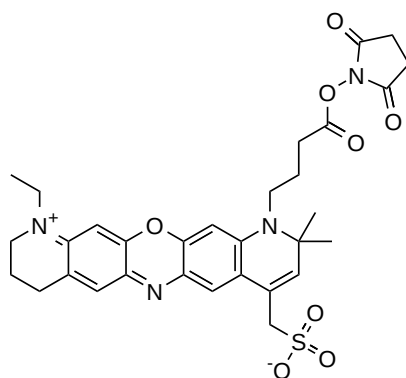
Unit Size: 1 mg

Product Details

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

Chemical Properties

Appearance	Solid blue
Molecular Weight	622.69
Soluble In	DMSO
Chemical Structure	



Spectral Properties

Excitation Wavelength	679 nm
Emission Wavelength	696 nm

Applications

AATOM™ 680 is a far-red fluorescent dye characterized by its strong absorption, high photo and thermal stability, and good aqueous solubility. It is optimally excited within the 645-695 nm wavelength range, which aligns with the 670 nm line of diode laser and the 676 nm line of Krypton-Ion laser. As a zwitterionic compound, AATOM™ 680 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 make AATOM™ 680 ideal for precise applications including single-molecule detection and super-resolution microscopy techniques like PALM, dSTORM, and STED. Furthermore, AATOM™ 680 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.

The N-hydroxysuccinimidyl (NHS) ester of AATOM™ 680 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™ 680 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.