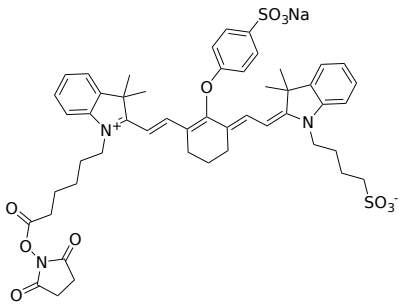
iFluor® IRDye 800RS NHS Ester

Catalog Number: 71614, 71615
Unit Size: 1 mg, 10 mg

Product Details

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

Chemical Properties

Appearance	Solid green
Molecular Weight	962.12
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	767 nm
Emission Wavelength	785 nm

Applications

iFluor® IRDye 800RS is a near-infrared fluorescent dye engineered for nucleic acid labeling applications. It exhibits high water solubility but reduced salt tolerance compared to iFluor® IRDye 800 CW. The increased hydrophobicity of iFluor® IRDye 800RS enhances its performance in organic solvent-based reactions while maintaining sufficient aqueous solubility, making it particularly suitable for conjugation to amino-modified oligonucleotides and nucleic acids.

The NHS ester derivative of iFluor® IRDye 800RS undergoes efficient nucleophilic substitution with primary and secondary amines, enabling stable covalent attachment to amino-functionalized DNA and RNA. This chemical modification supports a range of fluorescence-based applications, including hybridization assays, optical imaging, and molecular diagnostics. Labeled nucleic acids can be readily purified via reverse-phase chromatography, facilitating the isolation of high-purity conjugates with minimal unreacted dye.

The physicochemical properties of iFluor® IRDye 800RS provide a controlled balance between aqueous and organic solubility, optimizing its utility in diverse labeling strategies requiring near-infrared fluorescence. iFluor® IRDye 800RS, manufactured by AAT Bioquest, is structurally identical to IRDye 800RS (IRDye® is the trademark of LI-COR).