

iFluor® 594 amine

Catalog Number: 1089

Unit Size: 1 mg

Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	1017.08
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	587 nm
Emission Wavelength	603 nm

Applications

iFluor® 594 amine is a bright, red-fluorescent dye functionalized with a primary amine group for covalent conjugation to activated carboxyl groups. It is engineered for high-efficiency labeling via carbodiimide-mediated coupling reactions, such as EDC/NHS activation, resulting in the formation of stable amide linkages. The dye exhibits excitation and emission maxima at approximately 588 nm and 604 nm, respectively, with spectral properties comparable to Texas Red® and Alexa Fluor® 594, enabling seamless integration into existing fluorescence-based workflows. iFluor® 594 demonstrates excellent photostability, high quantum yield, and pH-independent fluorescence across a broad range (pH 3–11), making it suitable for a wide range of applications including fluorescence microscopy, flow cytometry, and high-throughput screening.

In addition to conventional coupling strategies, the primary amine of iFluor® 594 is compatible with enzymatic transamination reactions, facilitating site-specific protein labeling under mild, physiologically relevant conditions. When used to generate tandem conjugates with donor proteins such as R-phycoerythrin (PE), iFluor® 594 significantly enhances FRET efficiency and reduces spectral crosstalk compared to traditional PE–Texas Red® conjugates. These attributes make iFluor® 594 amine a robust and versatile fluorophore for the development of advanced probes in complex, multicolor analytical and imaging assays.