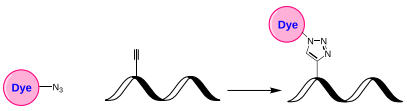
iFluor® 594 azide

Catalog Number: 1095
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 red
Molecular Weight	1043.07
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	587 nm
Emission Wavelength	603 nm

Applications

iFluor® 594 azide is a hydrophilic, red-emitting fluorescent dye engineered for efficient biomolecular labeling via click chemistry. It exhibits excitation and emission maxima at approximately 587 nm and 603 nm, respectively, aligning closely with dyes such as Texas Red® and Alexa Fluor® 594. A key advantage of iFluor® 594 is its pH-independent fluorescence, which remains stable across a broad pH range, ensuring consistent performance in different experimental conditions and improving reproducibility across diverse labeling applications.

The azide functionality of iFluor® 594 allows for precise and efficient bioconjugation with alkyne-functionalized molecules via copper-catalyzed azide-alkyne cycloaddition (CuAAC). Unlike conventional labeling strategies that modify amine or thiol groups, CuAAC provides exceptional chemoselectivity, minimizing nonspecific interactions and reducing background fluorescence. This improves labeling accuracy while maintaining the structural and functional integrity of biomolecules. iFluor® 594 azide is particularly suitable for applications including fluorescence microscopy, flow cytometry, and various fluorescence-based assays, providing researchers with a reliable tool for sensitive detection and imaging.