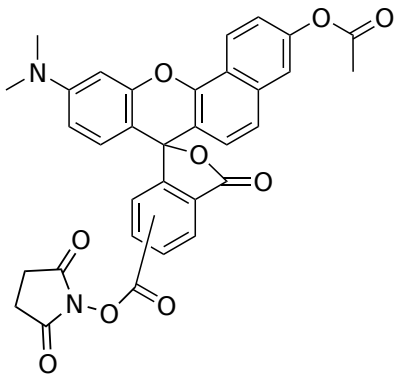
SNARF™-1 Carboxylic Acid, Acetate, Succinimidyl Ester

Catalog Number: 21232
Unit Size: 10x50 ug

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	24 months upon receiving

Chemical Properties

Appearance	Solid
Molecular Weight	592.56
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	549 nm
Emission Wavelength	586 nm

Applications

SNARF™-1 carboxylic acid, acetate, succinimidyl ester is a pH-sensitive orange-red fluorescent probe optimized for long-term analysis of mixed-cell populations. With a pKa of ~7.5, it is ideal for detecting pH changes within the physiological range (pH 7–8). The probe exhibits a distinct pH-dependent emission shift, transitioning from yellow-orange fluorescence under acidic conditions to deep red under basic conditions. This property enables precise ratiometric pH measurements by comparing fluorescence intensities at two emission maxima, typically 580 nm and 640 nm.

SNARF™-1 carboxylic acid, acetate, SE is spectrally distinct from green-emitting probes such as CFDA SE (CFSE), facilitating multiplexed analysis of heterogeneous cell populations. Upon cellular uptake, intracellular esterases hydrolyze the acetate groups, unmasking the reactive succinimidyl ester moiety. This reactive group forms covalent bonds with intracellular proteins, generating a stable, long-lasting fluorescent signal that persists through multiple cell divisions with minimal photobleaching, leakage, or signal attenuation. The low cytotoxicity of SNARF™-1 carboxylic acid, acetate, SE minimizes perturbation of cellular physiology, making it particularly suitable for sensitive assays, including cell proliferation, population dynamics, and cell migration studies in both in vitro and in vivo systems. Its compatibility with flow cytometry and fluorescence microscopy enables robust, quantitative, high-resolution pH and cell-tracking analyses across complex experimental models.

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