Cyanine3 NHS ester

Cyanine3 NHS ester is a reactive dye for the labeling of amino-groups in biomolecules, an analog of Cy3® NHS ester. This reagent is ideal for the labeling of soluble proteins, peptides, and oligonucleotides/DNA. For delicate proteins consider using water-soluble sulfo-Cyanine3 NHS ester which does not require use of any co-solvent.

Cyanine3 NHS ester is a replacement for NHS esters of Cy3®, Alexa Fluor 546, and DyLight 549.

**Structure of Cyanine3 NHS ester**

Absorption and emission spectra of Cyanine3 fluorophore

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**General properties**

- **Appearance:** red powder
- **Mass spec M+ increment:** 474.2
- **Molecular weight:** 641.5
- **CAS number:** 1393427-85-4 (without anion), 1393363-07-9 (chloride)
- **Molecular formula:** C_{34}H_{40}N_{3}BF_{4}O_{4}
- **IUPAC name:** 3H-Indolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propen-1-yl]-1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-3,3-dimethyl-, tetrafluoroborate
- **Solubility:** poorly soluble in water (2.3 mM = 1.5 g/L), soluble in organic solvents (DMF, DMSO, dichloromethane)
- **Quality control:** NMR 1H and HPLC-MS (95+%)  
- **Storage conditions:** Storage: 12 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Avoid prolonged exposure to light. Desiccate.
- **TN VED Code:** 3204190000

**Spectral properties**

- **Excitation maximum, nm:** 555  
- **ε, L-mol⁻¹·cm⁻¹:** 150000  
- **Emission maximum, nm:** 570  
- **Fluorescence quantum yield:** 0.31  
- **CF_{260}:** 0.04  
- **CF_{280}:** 0.09

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