Cyanine5.5 NHS ester

Cyanine5.5 NHS ester is a reactive dye for the labeling of amino-groups in peptides, proteins, and oligonucleotides, an analog of Cy5.5® NHS ester.

Cy5.5 is a far-red (and near-infrared) emitting dye which is ideal for fluorescence measurements where background fluorescence is a concern. It is also suitable for in vivo NIR imaging experiments.

This reagent can replace NHS esters of Cy5.5®, Alexa Fluor 680, and DyLight 680.

![Cyanine5.5 NHS ester structure](image)

![Cy5.5 absorbance and emission spectra](image)

**General properties**
- **Appearance:** dark blue solid
- **Molecular weight:** 767.66
- **CAS number:** 1469277-96-0, 2054318-82-8 (chloride); 1469541-53-4, 1874250-60-8 (without anion)
- **Molecular formula:** C₄₄H₄₆N₃BF₄O₄
- **IUPAC name:** 1H-Benz[e]indolium, 2-[5-(1,3-dihydro-1,1,3-trimethyl-2H-benz[e]indol-2-ylidene)-1,3-pentadien-1-yl]-3-[6-{(2,5-dioxo-1-pyrrolidinyl)oxy}-1-oxohexyl]-1,1-dimethyl-
- **Solubility:** soluble in organic solvents (DMSO, DMF, dichloromethane), practically insoluble in water (< 1 \text{uM}, < 1 \text{mg/L})
- **Quality control:** NMR \(^1\text{H}, \text{HPLC-MS (95\%)}\)
- **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.

**Spectral properties**
- **Excitation maximum, nm:** 684
- **\(\varepsilon, \text{L}\cdot\text{mol}^{-1}\cdot\text{cm}^{-1}\):** 209000
- **Emission maximum, nm:** 710
- **Fluorescence quantum yield:** 0.2
- **CF\(_{260}\):** 0.07
- **CF\(_{280}\):** 0.03

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