

## UGO 647N NHS ester [equivalent to ATTO 647N NHS ester]

Catalog ID: 112502

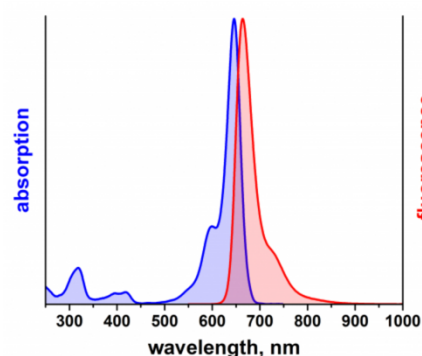
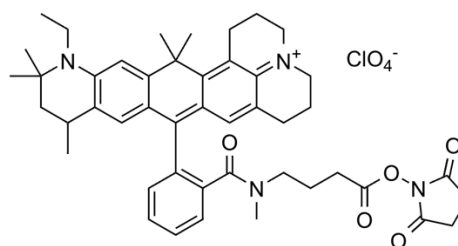
Revised: 2025-01-31

### Description

UGO 647N is a rhodamine-based fluorescent dye optimized for use in the red spectral region, with spectral characteristics similar to Cy5. It features high molar absorptivity, a strong fluorescence quantum yield, and excellent thermal and photostability. The dye is moderately hydrophilic and exhibits optimal excitation within the 625–660 nm range, making it compatible with the 647 nm line of Krypton-Ion lasers and the 650 nm line of diode lasers. UGO 647N maintains stable fluorescence across a broad pH range (pH 2–11), supporting its use in diverse experimental conditions. Upon conjugation to a substrate, it becomes cationic, carrying a net positive charge of +1. Unlike cyanine dyes, UGO 647N shows enhanced resistance to atmospheric ozone degradation, increasing its reliability for microarray applications. This dye is particularly effective for high-precision applications such as single-molecule detection, super-resolution microscopy techniques (e.g., SIM and STED), flow cytometry (FACS), fluorescence in situ hybridization (FISH), and various other biological assays.

### Chemical Properties

CAS number	1199940-27-6
Formula	C <sub>46</sub> H <sub>55</sub> ClN <sub>4</sub> O <sub>9</sub>
Molecular Weight (M+)	743
HPLC Purity	≥95%
λ <sub>abs</sub> (nm)	646
ε <sub>max</sub> (M <sup>-1</sup> cm <sup>-1</sup> )	1.5×10 <sup>5</sup>
λ <sub>fl</sub> (nm)	664
η <sub>fl</sub>	65%
τ <sub>fl</sub> (ns)	3.5
CF <sub>260</sub> = ε <sub>260</sub> /ε <sub>max</sub>	0.04
CF <sub>280</sub> = ε <sub>280</sub> /ε <sub>max</sub>	0.03



### Storage

Upon receipt, store at -20°C in the dark. Protect from light and moisture. When stored as indicated, UGO NHS-esters are stable for at least 3 years.

This product is for Research Use Only. Not for Human or Veterinary or Therapeutic Use

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