

abberior STAR 580, NHS ester, 1 mg

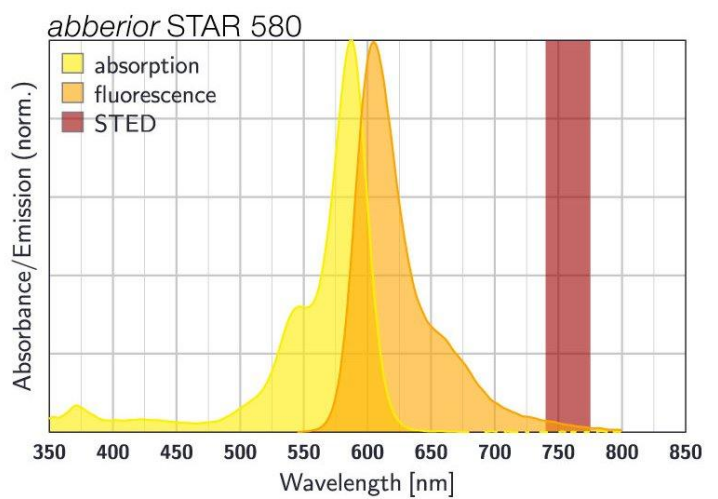
Item number

ST580-0002-1MG

Description

abberior STAR 580 was developed for STED and confocal microscopy in the orange spectral region. Characteristic features of this dye are exceptional photostability and high fluorescent quantum yield of 90%. abberior STAR 580 can be very effectively excited with excitation wavelength between 550 - 600 nm. For STED microscopy, abberior STAR 580 can be used most efficiently with a STED laser wavelength between 750 - 800 nm. Our abberior STAR 580 can substitute dyes like Cy3, ATTO® 590 or Alexa Fluor® 568. abberior STAR 580 is the ideal partner for abberior STAR RED or abberior STAR 635P to obtain optimal 2 color STED results. Together with our abberior STAR ORANGE you get the ideal pair for FLIM experiments. Best results are obtained with freshly prepared samples.

The NHS ester is a widespread tool for conjugating a fluorescent dye to a protein or antibody. NHS ester can be used to label primary amines of proteins or amine-modified molecules. The resulting abberior conjugate will show a bright fluorescence and photostability. abberior offers protocols for labeling antibodies via amine-reactive groups.



Properties

Absorption	λ_{ex} [nm]	587
Extinction Coefficient	ϵ_{max} [M ⁻¹ cm ⁻¹]	85000
Emission	λ_{em} [nm]	607
Quantum Efficiency	η_{fl} [%]	90
STED min.	$\lambda_{\text{STED min}}$ [nm]	750
STED max.	$\lambda_{\text{STED max}}$ [nm]	800
Fluorescence Lifetime	τ_{fl} [ns]	3.5
Correction Factor 260	CF ₂₆₀	0.17
Correction Factor 280	CF ₂₈₀	0.17
Charge	Δq	1
Molecular Weight	MW [g/mol]	800.8
Derivative/Conjugate	NHS ester	

Photophysical properties were measured for carboxylic acid in PBS pH 7.4.

Storage

The product contains a vial of dried, solid substance and is shipped at room temperature. Upon arrival, the product can be stored at -20 °C to -80 °C for long-term storage of up to one year. The conjugate should be protected from direct light exposure and repeated freeze-thaw cycles should be avoided.

- Depending on solvent quality the shelf-life of the NHS solution might be significantly reduced compared to the NHS in its solid form – even if stored at -20 °C. Our abberior NHS ester and carbonate are freeze-dried and should be dissolved only shortly before the coupling reaction. Recommended solvents include amine- and water-free DMF, DMSO, or acetonitrile.