

abberior CAGE 590 NHS ester 250 µg

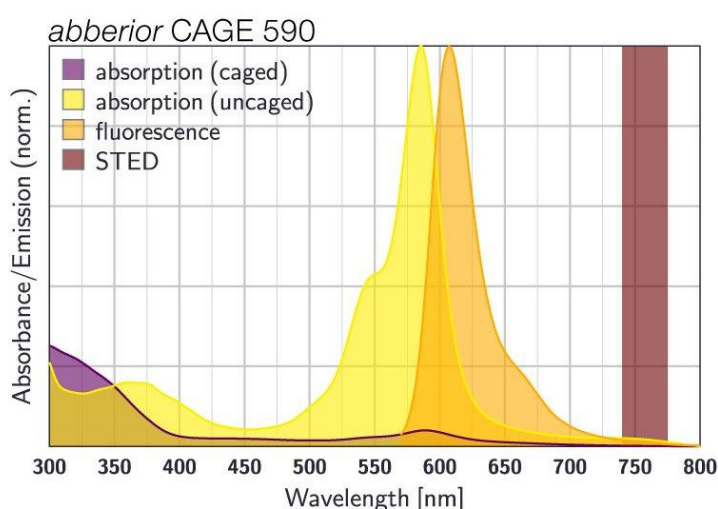
Item number

CA590-0002-250UG

Description

abberior CAGE 590 is a caged dye which is initially colorless and nonfluorescent. When illuminated with UV light it undergoes a rapid uncaging reaction and releases a highly fluorescent orange-red dye. It can most effectively be excited from 560 to 600 nm. abberior CAGE 590 is designed for single-molecule photoswitching microscopy modes such as PALM, STORM and GSDIM and, in its uncaged form, also performs well in STED microscopy. Further, after photoactivation, abberior CAGE 590 can be tracked in confocal and epifluorescence microscopy to analyse molecular dynamics such as diffusion, flow directions and velocities, e.g. are tracking experiments in which the fluorescence signal is observed over time after the initial release of the fluorophore.

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]	595
Extinction Coefficient	ϵ_{max} [M ⁻¹ cm ⁻¹]	75000
Emission	λ_{em} [nm]	615
Quantum Efficiency	η_{fl} [%]	90
Activation	λ_{act} [nm]	405
STED min.	$\lambda_{\text{STED min}}$ [nm]	750
STED max.	$\lambda_{\text{STED max}}$ [nm]	800
Fluorescence Lifetime	τ_{fl} [ns]	4
Charge	Δq	0
Molecular Weight	MW [g/mol]	715.8
Derivative/Conjugate	NHS ester	

*Photophysical properties were measured for carboxylic acid in PBS pH 7.4.
Values refer to the photoactivated state of the dye.*

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.