Hans-Adolf-Krebs-Weg 6
37077 Göttingen, Germany
E-Mail: support@abberior.com
Website: abberior.rocks

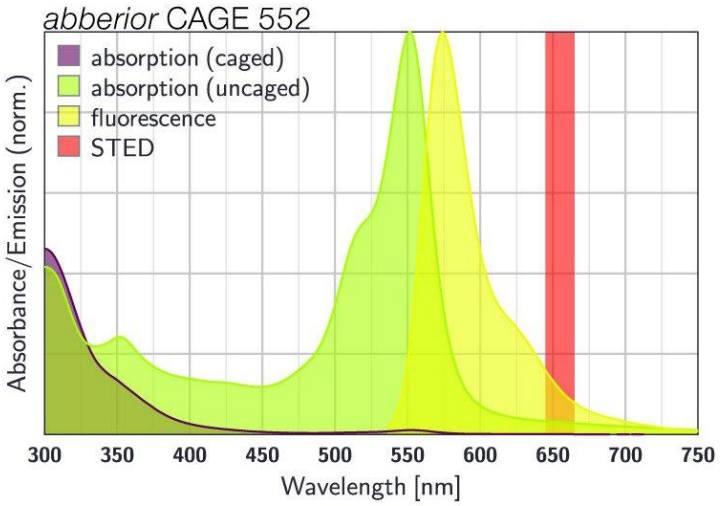
abberior CAGE 552 NHS ester,1 mg

Item number

CA552-0002-1MG

Description

abberior CAGE 552 is a caged dye which is initially nonfluorescent and colorless substance which, upon photolysis at 360 - 440 nm, readily transforms into a red and highly fluorescent dye. It absorbs around 552 nm and emits around 575 nm. abberior CAGE 552 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. After uncaging it can be effectively used for STED with a depletion wavelength between 650 - 775 nm. High brightness and a very good photostability are key features of the uncaged form of this dye. It is the smallest and lightest caged rhodamine dye available. Further, after photoactivation, abberior CAGE 552 can be tracked to analyze molecular dynamics such as diffusion, flow directions and velocities in 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.

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Properties

Absorption	λ_{ex} [nm]	552
Extinction Coefficient	ε_{max} [$M^{-1}cm^{-1}$]	66000
Emission	λ_{em} [nm]	574
Quantum Efficiency	η_{fl} [%]	73
Activation	λ_{act} [nm]	405
STED min.	$\lambda_{STED\ min}$ [nm]	650
STED max.	$\lambda_{STED\ max}$ [nm]	775
Fluorescence Lifetime	τ_{fl} [ns]	4
Charge	Δq	0
Molecular Weight	MW [g/mol]	551.5
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.