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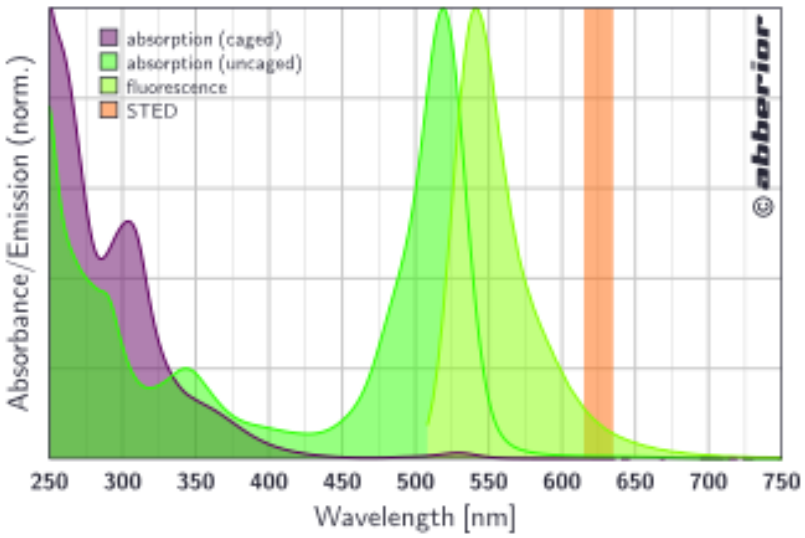
Product Information

38977 Abberior® CAGE 532, NHS ester

Absorption & Fluorescence Spectrum



Key Features

- Very good results with the Leica GSD
- Ideal for PALM, STORM, GSDIM
- Well suited as 2nd STED color (after uncaging)

Description

Abberior CAGE 532 is a masked dye which is initially colorless and nonfluorescent. When illuminated with UV light it undergoes a rapid uncaging reaction and releases a highly fluorescent dye. The dye is optimizes for the very prominent laser line at 532 nm and performns very well in the Leica GSD superresolution microscope.

Chemical Data : Abberior® CAGE 532 NHS ester

Structure:	on request
Formula:	$C_{36}H_{31}F_6N_5O_8$
Molecular weight:	757.6 g/mol
Exact Mass:	775.65.Da
Solubility:	DMF, DMSO, acetonitrile, MeOH, THF
Polarity:	unpolar (non-photoactivated) zwitterionic (photoactivated)
Net Charge (at PH 7.4):	0
Purity:	> 90 %

Photophysical Data : Abberior® CAGE 532

Absorption Maximum, λ_{max}:	237, 302, 350 (non-activated, PBS, pH 7.4) 533 (photoactivated, PBS, pH 7.4)
Fluorescence Maximum, λ_{fl}:	541 (photoactivated, PBS, pH 7.4)
Extinction Coefficient, ε, $M^{-1}cm^{-1}$:	62.000 (non-photoactivated, λ=237 nm, PBS, pH 7.4) 16.000 (non-photoactivated, λ=302 nm, PBS, pH 7.4) 3.800 (non-photoactivated, λ=350 nm, PBS, pH 7.4) 82.000 (photoactivated, PBS, pH 7.4)
Photoactivation wavelength, λ_{fl}, nm:	360-440
Recommended STED Wavelength, λ_{STED}, nm:	610-640
Fluorescence Quantum Yield, η:	0.84 (after photoactivation, PBS, pH 7.4)
Fluorescence Lifetime, τ:	4.1 ns (PBS, pH 7.4)

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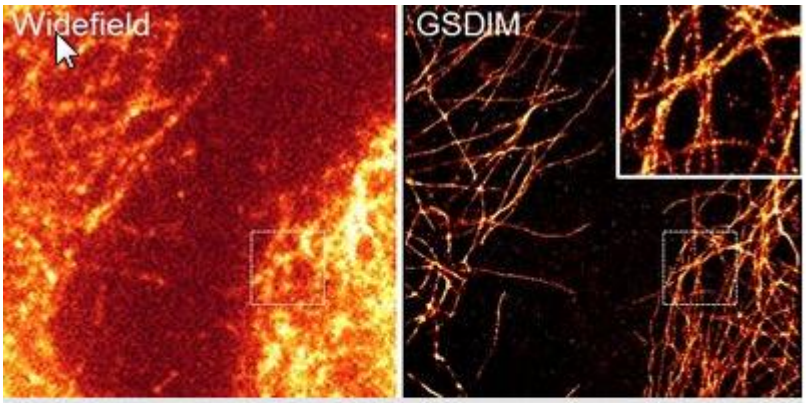

Comparison of a conventional (left) and the corresponding high-resolution (right) microscopy image of tubulin obtained with an Abberior CAGE 552 label in the commercial Leica GSD microscope.

Applications

Abberior CAGE 532 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 markers can be tracked 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).

Literature

1. V. N. Belov et.al. "Rhodamines NN: A Novel Class of Caged Fluorescent Dyes", *Angew. Chem. Int. Ed.* **49**, 3520−3523 (2010).

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.