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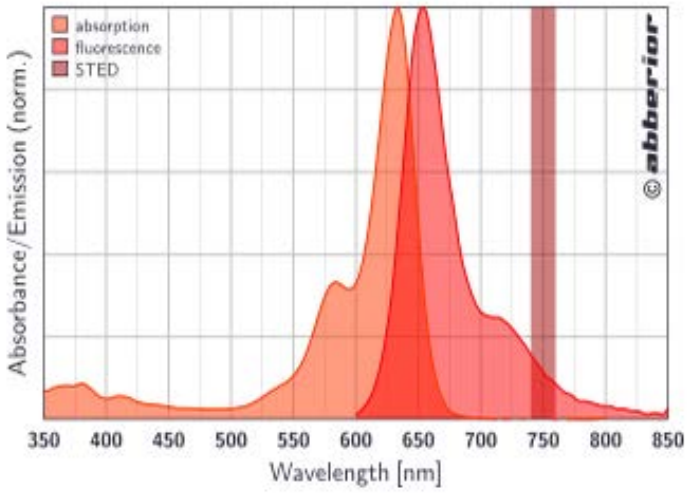
Product Information

40734 Anti-Mouse IgG-Abberior® STAR 635 antibody produced in goat



Key Features

- Exceptionally bright and stable red fluorescent dye
- Ideal for Abberior Instruments 2-color STED system
- Recommended for Ti:Sa STED including the Leica TCS STED system
- High water solubility

Description

Abberior STAR 635 is the latest dye development for STED imaging in the red spectral region. It features exceptional brightness and ultralow background, delivering stunning STED images. The dye works exceptionally well with the Abberior Instruments STED microscope as well as with the Leica STED microscope.
Abberior STAR 635 can substitute Atto® 647N, AlexaFluor® 647, or Cy5®. It can be excited with diode lasers (635 nm, 650 nm) or with the 647 nm line of a Krypton laser. For STED, a depletion wavelength around 750-780 nm is recommended.

Best results are obtained with freshly prepared samples.

Chemical Data : Abberior® STAR 635

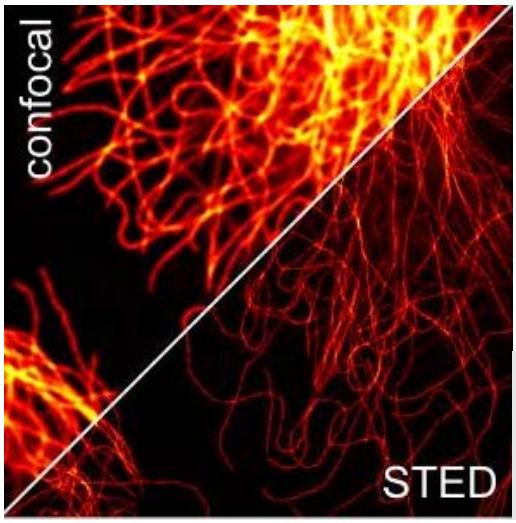
Molecular weight:	961 g/mol (NHS ester), 1018 g/mol (maleimide)
Solubility:	water, acetonitrile, methanol, DMSO, DMF
Polarity:	hydrophilic
Charge:	0 (when conjugated)
Purity:	> 90 %

Photophysical Data : Abberior® STAR 635

Absorption Maximum, λ_{abs}, nm:	635 (PBS, pH 7.4; water; aq. acetonitrile; MeOH)
Fluorescence Maximum, λ_{fl}, nm:	655 (PBS, pH 7.4; water) 656 (aq. acetonitrile; MeOH)
Extinction Coefficient, ε, $M^{-1}cm^{-1}$:	110 000 (PBS, pH 7.4) 115 000 (aq. acetonitrile)
Correction Factor, $CF_{260} = \varepsilon_{260}/\varepsilon_{max}$:	0.26 (PBS, pH 7.4; water) 0.27 (aq. acetonitrile)
Correction Factor, $CF_{280} = \varepsilon_{280}/\varepsilon_{max}$:	0.38 (PBS, pH 7.4; water) 0.41 (aq. acetonitrile)
Recommended STED Wavelength, λ_{STED}, nm:	750 – 780
Fluorescence Quantum Yield, η:	0.88 (PBS, pH 7.4)
Fluorescence Lifetime, τ:	2.8 (PBS, pH 7.4)

Applications

Abberior STAR 635 particularly well suits our Abberior Instruments 2-color 775nm STED microscope and the Leica TCS STED system. It delivers high-resolution STED images with very low background signal due to its improved water solubility and exceptional brightness. The dye serves as an ideal partner for several **2-color STED packages**.



Comparison of a confocal (upper half) and the corresponding STED (lower half) microscopy image obtained with an Abberior STAR 635 labeling.

Literature

A. Leica Microsystems recommendations for 2-color applications

B. B. Hua et al. "An improved surface passivation method for single-molecule studies" *Nature Methods*, 11 (12), 1233-1239 **(2014)**

C. A.P. Giese et al. "Gipc1 has a dual role in Vangl2 trafficking and hair bundle integrity in the inner ear" *Development*, 139(20), 3775-85 **(2012)**

D. C.A. Wurm et al. "Novel red fluorophores with superior performance in STED microscopy" *Optical Nanoscopy* 1:7 **(2012)**

E. K. Kolmakov et al. "Red-Emitting Rhodamines with Hydroxylated, Sulfonated, and Phosphorylated Dye Residues and Their Use in Fluorescence Nanoscopy"*Chem. Eur. J.*, 18, 12986 –12998 **(2012)**

F. K. Kolmakov et al. "Polar Red-Emitting Rhodamine Dyes with Reactive Groups: Synthesis, Photophysical Properties, and Two-Color STED Nanoscopy Applications" *Chem. Eur. J.*, 20, 146-157 **(2014)**

G. L. Long et al. "Drosophila Syd-1, Liprin-a, and Protein Phosphatase 2A B' Subunit Wrd Function in a Linear Pathway to Prevent Ectopic Accumulation of Synaptic Materials in Distal Axons" *The Journal of Neuroscience*, 34 (25), 8474-8487 **(2014)**

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.