

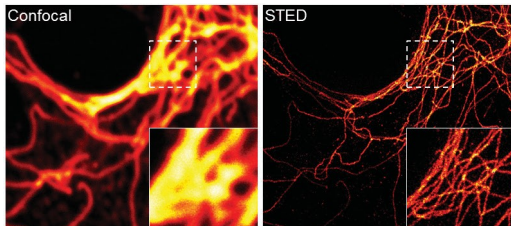
## Abberior STAR 635P

Abberior GmbH  
Hans-Adolf-Krebs-Weg 1  
37077 Göttingen

Tel. +49 551 30724-180  
E-Mail: [info@abberior.com](mailto:info@abberior.com)



[www.abberior.com](http://www.abberior.com)

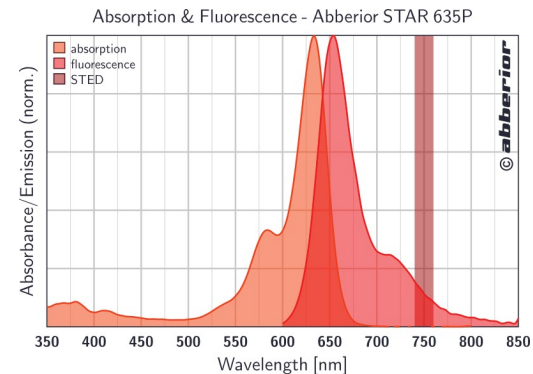


Abberior STAR 635P is a phosphorylated fluorescent dye. The dye excels in its photo-physical parameters, e.g. very bright, very stable and it enables basically background free imaging. The dye works exceptionally well with the Abberior Instruments STED microscope as well as with the Leica STED microscope.

It can be excited between 630 nm and 650 nm. For STED, a depletion wavelength between 750 nm and 775 nm is recommended.

Best results are obtained with freshly prepared samples.

Absorption Maximum, $\lambda_{abs}$ [nm]	638 (PBS, pH 7.4; water) 634 (aq. ACN, MeOH)
Extinction Coefficient, $\epsilon$ [ $M^{-1} cm^{-1}$ ]	120 000 (PBS, pH 7.4; water) 130 000 (aq. ACN, MeOH)
Correction Factor, $CF_{260} = \epsilon_{260} / \epsilon_{max}$	0.21 (PBS, pH 7.4; water) 0.23 (aq. ACN, MeOH)
Correction Factor, $CF_{280} = \epsilon_{280} / \epsilon_{max}$	0.40 (PBS, pH 7.4; water) 0.41 (aq. ACN, MeOH)
Fluorescence Maximum, $\lambda_{fl}$ [nm]	651 (PBS, pH 7.4, water, aq. ACN, MeOH)
Recommended STED Wavelength, $\lambda_{STED}$ [nm]	750-780
Fluorescence Quantum Yield, $\eta$	0.90 (PBS, pH 7.4)
Fluorescence Lifetime, $\tau$ [ns]	3.3 (PBS, pH 7.4)
Structure	on request
Formula	$C_{47}H_{48}F_4N_4O_{14}P_2$ (NHS ester)
Molecular weight [g/mol]	1030.8 (NHS ester) 1055.9 (maleimide) 1015.9 (azide) 1703.6 (phalloidin)
Solubility	PBS, pH 7.4; water; DMF; DMSO; aq. ACN
Polarity	polar (anionic)
Net Charge (at pH 4.7)	-3 (NHS ester)
Content	> 90%



### Labeling Protocols

Labeling Protocols for NHS esters and maleimids as well as immunolabeling protocols can be found at [www.abberior.com](http://www.abberior.com)



Labeling Protocols

## Usage and Safty Information

Fluorescent dye for physical/chemical research purposes, spectroscopy and optical microscopy in biological and biomedical applications.

This product is sold for research and development purposes only and must not be used for any human or animal therapeutic, clinical diagnostic or other medical purpose. It is not intended for food, drug, household, agricultural or cosmetic use.

The substance has not been finally and official-ly classified. To date, no health hazards have been reported nor do we know of any unreported or unpublished health hazards. However, the substance should be treated as potentially hazardous.

The full safety datasheet can be downloadet from [www.abberior.com](http://www.abberior.com)

## Storage & Handling

Our products are shipped at room temp-erature.

Keep at 4 °C for short term storage. For long term storage we recommend a temperatur of -20 °C to -80 °C.

We strongly recommend to avoid repeated freeze-thaw cycles.

## Further Abberior STAR 635P Products

NHS carbonate, 1 mg	1-0101-007-6
NHS carbonate, 5 mg	1-0105-007-2
Maleimide, 1 mg	1-0201-007-5
Maleimide, 5 mg	1-0205-007-1
Biotin, 1 mg	1-0401-007-3
Streptavidin, 1 mg	2-0205-007-0
Neutravidin, 1 mg	1-1401-007-0
Azide, 1 mg	1-0401-007-3
Phalloidin, 20 µg	2-0205-007-0
Goat anti-mouse IgG, 500 µg	2-0002-007-5
Goat anti-rabbit IgG, 500 µg	2-0012-007-2
Goat anti-guinea-pig IgG 500 µg	2-0112-007-1
Goat anti-rat IgG 500 µg	2-0132-007-5
Goat anti-chicken 500 µg	2-0102-007-4

## Recommended Products for 2 Color STED

Abberior STAR 470SXP  
Abberior STAR 520SXP  
Abberior STAR 580  
Abberior STAR 600

## Custom products

In addition to the products listed, we offer a variety of custom products.

If you are interested please inquire at [info@abberior.com](mailto:info@abberior.com)

## Literature

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

F. Göttfert et al. "Coaligned Dual-Channel STED Nanoscopy and Molecular Diffusion Analysis at 20 nm Resolution" *Biophysical Journal*, 105, L01-L03 (2013)

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

F. Bergermann et al. "2000-fold parallelized dual-color STED fluorescence nanoscopy" *Optics Express* 211, 23 (1),211-223(2015)