ATTO 643 Superiour Fluorophore for your Application

ATTO 643 - one of the brightest, most hydrophilic, and photostable long-wavelength absorbing dyes available.

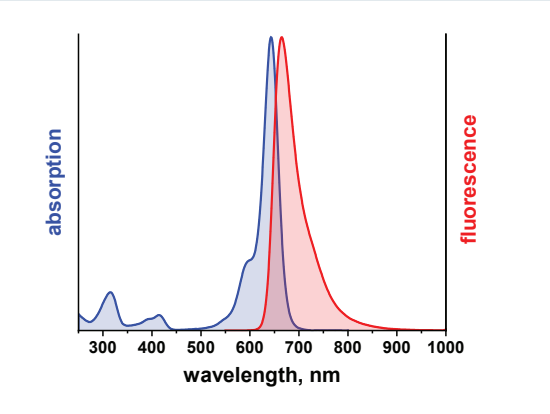
ATTO 643 is a new fluorescent label related to the well known dye ATTO 647**N**. The dye is very **hydrophilic**, hence it shows excellent water solubility and significantly reduced tendency for unspecific binding. Characteristic features of the dye are strong absorption and excellent photostability.

ATTO 643 is very suitable for single-molecule detection applications and high-resolution microscopy (SIM, STED, TIRF). The dye is also highly recommended for oligonucleotide labeling, flow cytometry (FACS), fluorescence in-situ hybridization (FISH) and many more.

Optical Data of the Carboxy Derivative in PBS pH 7.4

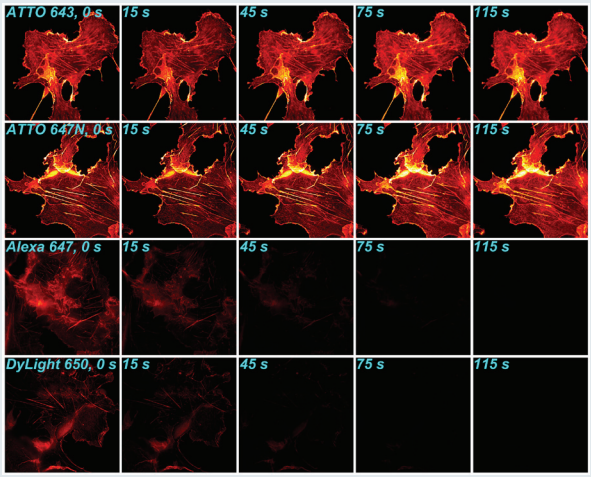
λ_{abs}	643 nm
ε_{max}	1.5 x 10^5 $M^{-1}cm^{-1}$
λ_{fl}	665 nm
η_{fl}	62 %
τ_{fl}	3.5 ns

ATTO 643 exhibits a high fluorescence quantum yield. Contrary to many common fluorescent labels this is the case even when the dye is coupled to proteins, e.g. antibodies, streptavidin.



Absorption and fluorescence spectra of ATTO 643 in PBS pH 7.4.

In addition **ATTO 643** shows excellent photostability under prolonged irradiation making the dye a perfect choice in fluorescence microscopy applications, in particular where high-intensity laser excitation is used.



Photostability of ATTO 643 compared to ATTO 647N, AlexaFluor 647 and DyLight 650. Actin staining of COS7 cells with dye labeled phalloidin conjugates (c = 0.1 µM). Structured Illumination Microscopy (SIM) images of stained cells after 0, 15, 45, 75, 115 s of illumination.

AlexaFluor and DyLight are trademarks of Thermo Fisher Scientific Inc.

Modifications:

ATTO 643 is available with free carboxy group, as NHS-ester, maleimide, azide, biotin, amine, tetrazine, alkyne and DBCO. In addition we provide dye-conjugates of streptavidin, phalloidin, and the phospholipid DOPE. Other derivatives are available on request.

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