

40709 Atto 590 Streptavidin

Application

Atto 590 is a novel fluorescent label belonging to the class of Rhodamine dyes. The dye is designed for application in the area of life science, e.g. labeling of DNA, RNA or proteins. Characteristic features of the label are strong absorption, high fluorescence quantum yield, high thermal and photo-stability, and very little triplet formation. The dye is highly suitable for single-molecule detection applications and high-resolution microscopy. As supplied, Atto 590 consists of a mixture of two isomers with practically identical absorption and fluorescence.

Atto 590 has been coupled to streptavidin to enable all kinds of assays based on the specific affinity of biotin to streptavidin. Streptavidin conjugates are used as secondary detection reagents in histochemical applications, flow cytometry, microarrays, blot analysis and immunoassays.

Streptavidin conjugation of Atto 590 does not significantly change the labels spectral data regarding excitation and emission maxima. Given the optimised Dye/Protein-ratio molar absorbance and quantum yields remain high within application.

Conjugates of our Atto dyes generally do not show strong fluorescence in unbound state, but fluorescence is boosted again as soon as they are bound to biotin. This may help overcome problems by unspecific binding which may sometimes appear with streptavidin based assays in special cases.

Product Description

Label

MW	691 g/mol
λ_{abs}	593 nm
ϵ_{max}	$1.2 \times 10^5 \text{ M}^{-1} \text{ cm}^{-1}$
λ_{fl}	622 nm
η_{fl}	80 %
τ_{fl}	3.7 ns
CF ₂₆₀	0.39
CF ₂₈₀	0.43

Streptavidin:

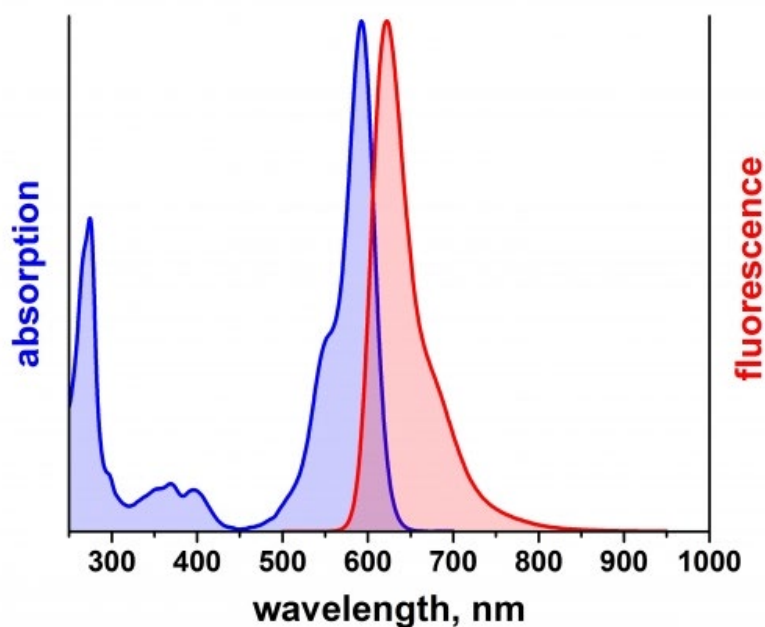
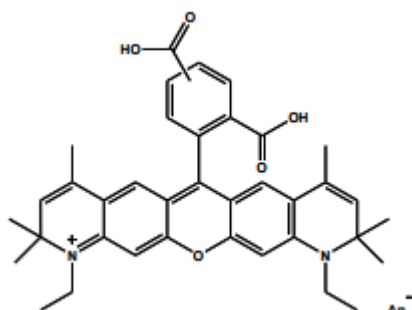
MW	53.000
Aource	Streptomyces avidinii, recombinanant
Activity	13 Units/ mg protein

Atto 590 Streptavidin:

Dye content 1 –3 mol / mol streptavidin



Optical data of the carboxy derivative (in aqueous solution)



Storage: protected from moisture and light at -20°C

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.

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