

16630 Atto 680-Streptavidin

Application

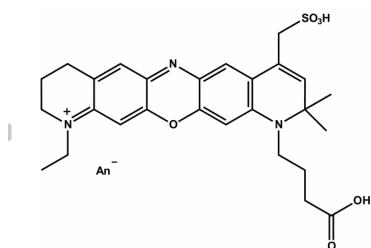
Atto 680 belongs to a new generation of fluorescent labels. The dye is designed for application in the area of life science, e.g. labeling of DNA, RNA or proteins. Characteristic features of the label are strong absorption, good fluorescence quantum yield, excellent thermal and photo-stability, and very little triplet formation. Atto 680 is a zwitterionic dye with a net electrical charge of zero. The fluorescence is efficiently quenched by electron donors like guanine, tryptophan, etc.

Streptavidin, isolated from *Streptomyces avidinii*, is a tetrameric protein of 4 x 13.2 kDa which binds very tightly to the small molecule biotin. The dissociation constant of the complex is extremely small ($K_d \approx 10^{-15}$ M), ranking among the strongest non-covalent interactions. This has made the streptavidin/biotin system a useful tool in numerous biochemical applications.

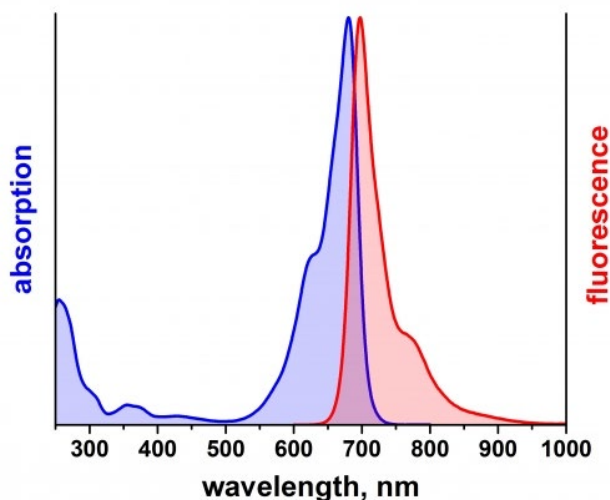
Atto streptavidin conjugates may be used as secondary detection reagents in flow cytometry, immunoassays, blot analysis, histochemical applications, etc. The dye conjugates are supplied as solvent-free lyophilized solids. Atto streptavidin conjugates are readily soluble in water.

Product Description

λ_{abs}	681 nm
ϵ_{max}	$1.25 \times 10^5 \text{ M}^{-1} \text{ cm}^{-1}$
λ_{fl}	698 nm
η_{fl}	30 %
τ_{fl}	1.7 ns
CF ₂₆₀	0.30
CF ₂₈₀	0.17



Optical data of the carboxy derivative (in aqueous solution)



Storage and handling

Atto-Dyes labeled streptavidins are supplied as lyophilisates and should be stored at $\leq -20^{\circ}\text{C}$, desiccated and protected from light. When stored as indicated, the product is stable for at least two years.

For the preparation of stock solutions allow vial to equilibrate to room temperature before opening. Dissolve the Atto-streptavidin conjugate in distilled water to a concentration of 1 mg/ml. For long-term storage of such solutions one should add sodium azide to a concentration of 5 mM. Protected from light and stored at $2 - 6^{\circ}\text{C}$, solutions are stable for up to six months. For longer storage you may divide the solution into aliquots and freeze at -20°C . However, one should avoid repeated freezing-and-thawing cycles.

Storage: Store at -20°C and protected from light.

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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