96404 Atto 550-Streptavidin

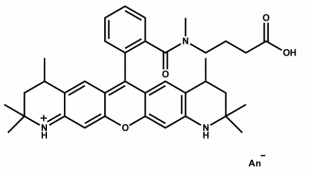
Application

Atto 550 is a novel fluorescent label related to the well-known dye Rhodamine 6G. 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.
Atto 550 is a cationic dye (charge $^{+1}$). As supplied, Atto 550 consists of three isomers with identical absorption and fluorescence.
Streptavidin coniugate of Atto 550 does not significantly change the labels spectral data regarding excitation and emission maximum.
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

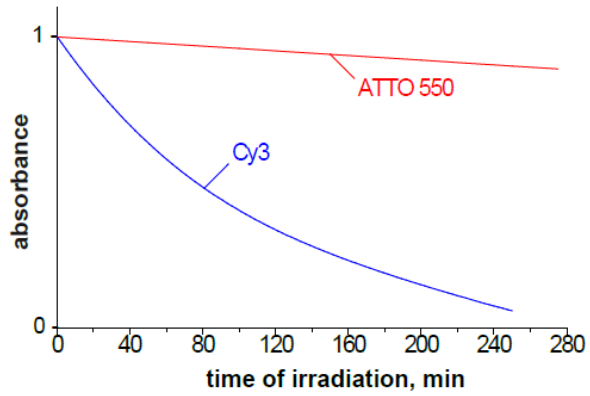
λ_{abs}	554 nm
ε_{max}	1.2 x 10^5 M^{-1} cm^{-1}
λ_{fl}	576 nm
η_{fl}	80 %
τ_{fl}	3.6 ns
CF_{260}	0.23
CF_{280}	0.10

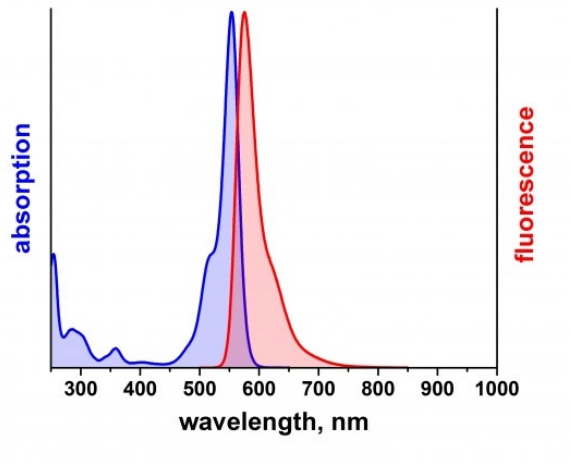


Streptavidin

MW	53.000 g / mol
Source	Streptomyces avidinii, recombinanat
Activity	13 Units / mg protein
Dye content	1 – 3 mol / mol streptavidin

Optical data of the carboxy derivative (in aqueous solution):





Storage and handling

Atto-Dyes labeled streptavidines are supplied as lyophilisates and should be stored at ≤ –20°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 °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.

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.