43048 Atto 740-Streptavidin

Application

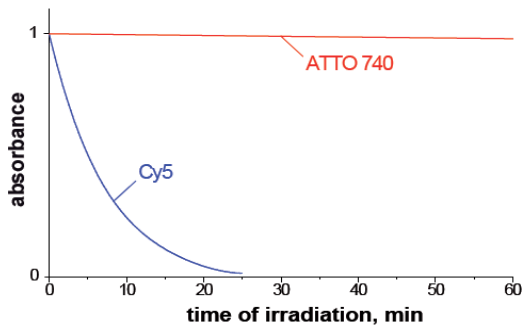
Atto 740 belongs to a new generation of fluorescent labels for the near infrared spectral region. The dye is designed for application in the area of life science, e.g. labeling of DNA, RNA or proteins. Characteristic features of the dye are strong absorption and good fluorescence as well as excellent thermal and photo-stability. Atto 740 is a cationic dye. After coupling to a substrate the dye carries a net electrical charge of $^{+1}$.
Atto 740 is a pH sensitive product. While practically stable up to pH 7.4 (PBS-buffer), it slowly degrades at higher pH. If exposed to higher pH for coupling purposes, we recommend reducing the pH immediately after completion of the reaction.
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.

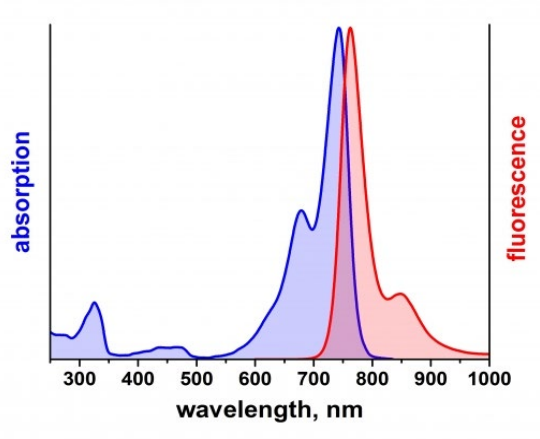
Atto streptavidin conjugates may be used as secondary detection reagents in flow cytometry, immunoassays, blot analysis, histochemical applications, etc. The dye conjugates are supplied as solvent-free lyophilized solids. Atto streptavidin conjugates are readily soluble in water.

Product Description

λ_{abs}	743 nm
ε_{max}	1.2 x 10^5 M^{-1} cm^{-1}
λ_{fl}	763 nm
η_{fl}	10 %
τ_{fl}	0.6 ns
CF_{260}	0.07
CF_{280}	0.07

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.

Storage: protected from 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.