

## Streptavidin – ATTO 590 Assay Kit Detection of Biotinylated Samples

Cat. No.	Amount
FP-303-590	100 assays

For *in vitro* use only!  
Protect from light - work under low light conditions!

### Kit Contents

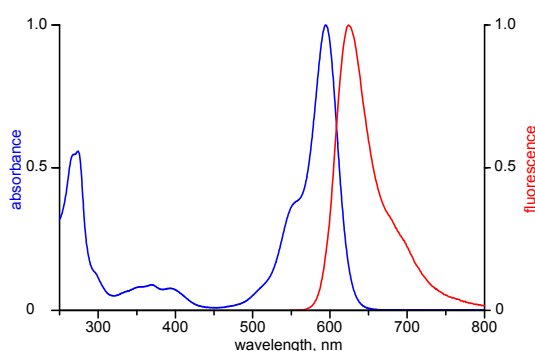
- **Streptavidin - ATTO 590**  
1 vial containing 1 mg (c = 1 mg/ml in binding buffer)
- **Binding Buffer**  
2 vials containing 25 ml each

### Storage and Stability

Upon receipt, store the kit at -20°C. We recommend dividing the labeled streptavidin into aliquots and freeze at -20°C. Avoid freeze/thaw cycles!  
If stored as recommended, Jena Bioscience guarantees optimal performance of this kit for 12 months.

### Spectroscopic data of ATTO 590

Excitation maximum:  $\lambda_{Ex} = 594 \text{ nm}$   
Emission maximum:  $\lambda_{Em} = 624 \text{ nm}$   
Extinction coefficient:  $\epsilon_{max} = 120,000 \text{ cm}^{-1} \text{ M}^{-1}$



excitation and emission spectrum of ATTO 590

### Introduction

Binding of biotin by avidin or streptavidin is the strongest known biological interaction with a dissociation constant in the range of  $10^{-15} \text{ M}$ . This Kit is perfectly suited for binding and fluorescent detection

of immobilized biotinylated samples such as proteins and DNA.

Free biotinylated samples can also be detected using this kit, but need to be separated from unbound fluorescent streptavidin after binding to obtain the accurate fluorescence signal.

### Protocol

#### General notes

We recommend using 10  $\mu\text{l}$  labeled streptavidin for 1  $\mu\text{g}$  of biotinylated ds-DNA or protein, respectively. If necessary, adjust the amount of streptavidin for your assay. The table below may give you a rough orientation, however, a specific adaptation might be required depending on your biotinylated sample and intended application.

In case you need to detect very low amounts of sample, dilute the labeled streptavidin, so that the required volume can be handled.

biotinylated sample			fluorescent probe	
amount	size	moles	moles	volume
ds-DNA			streptavidin	
1 $\mu\text{g}$	50 bp	30 pmol	300 pmol	20 $\mu\text{l}$
1 $\mu\text{g}$	200 bp	7.5 pmol	75 pmol	5 $\mu\text{l}$
1 $\mu\text{g}$	1000 bp	1.5 pmol	15 pmol	1 $\mu\text{l}$
protein			streptavidin	
1 $\mu\text{g}$	20 kDa	50 pmol	500 pmol	30 $\mu\text{l}$
1 $\mu\text{g}$	60 kDa	15 pmol	150 pmol	10 $\mu\text{l}$
1 $\mu\text{g}$	120 kDa	8 pmol	80 pmol	5 $\mu\text{l}$

Required volume of labeled streptavidin for different sized DNA and protein

#### Experimental protocol for immobilized samples

1. If necessary, dilute the labeled streptavidin using binding buffer.
2. Add the labeled streptavidin to your biotinylated sample and shake for 30 minutes at room temperature.
3. Wash your sample three times with binding buffer to remove excess free streptavidin.
4. Read out the fluorescence signal.

For further information and related products, please visit us at: [www.jenabioscience.com](http://www.jenabioscience.com)