

## Avidin – Cy5 Assay Kit Detection of Biotinylated Samples

Cat. No.	Amount
FP-304-CY5	100 assays

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

### Kit Contents

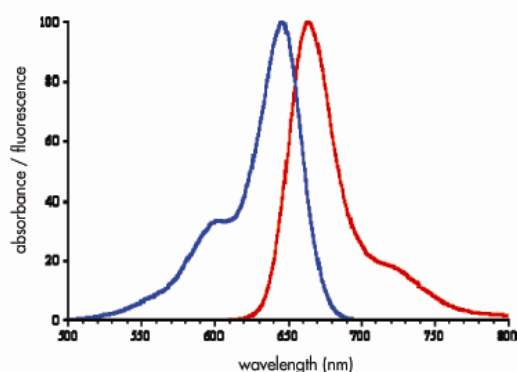
- **Avidin – Cy5**  
1 vial containing 1 mg (c = 1 mg/ml in binding buffer)
- **Binding Buffer**  
2 vials containing 25 ml each

### Storage and Stability

Upon receipt, store the kit at -20°C. We recommend dividing the labeled avidin 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 Cy5

Excitation maximum:  $\lambda_{Ex} = 649$  nm  
Emission maximum:  $\lambda_{Em} = 670$  nm  
Extinction coefficient:  $\epsilon_{max} = 250,000$  cm<sup>-1</sup> M<sup>-1</sup>



excitation and emission spectrum of Cy5

### Introduction

Binding of biotin by avidin or streptavidin is the strongest known biological interaction with a dissociation constant in the range of 10<sup>-15</sup> 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 avidin after binding to obtain the accurate fluorescence signal.

### Protocol

#### General notes

We recommend using 10 µl labeled avidin for 1 µg of biotinylated ds-DNA or protein, respectively.

If necessary, adjust the amount of avidin 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 avidin, so that the required volume can be handled.

biotinylated sample			fluorescent probe	
amount	size	moles	moles	volume
<i>ds-DNA</i>			<i>avidin</i>	
1 µg	50 bp	30 pmol	300 pmol	20 µl
1 µg	200 bp	7.5 pmol	75 pmol	5 µl
1 µg	1000 bp	1.5 pmol	15 pmol	1 µl
<i>protein</i>			<i>avidin</i>	
1 µg	20 kDa	50 pmol	500 pmol	30 µl
1 µg	60 kDa	15 pmol	150 pmol	10 µl
1 µg	120 kDa	8 pmol	80 pmol	5 µl

Required volume of labeled avidin for different sized DNA and protein

#### Experimental protocol for immobilized samples

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

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