

# Streptavidins and Related Reagents

## Streptavidin

Streptavidin is a protein produced by bacteria of the genus *Streptomyces* and is known to bind very tightly to biotin. The binding of biotin to streptavidin is used in a variety of biochemical experiments, including detection and purification.

**Streptavidin from *Streptomyces avidinii***

1mg/vial [S0951]

## Fluorescence-labeled Streptavidins

Streptavidins conjugated to a fluorescent dye or fluorescent protein. It can be used for immunofluorescence staining, flow cytometry, and fluorescence-linked immunosorbent assay (FLISA).

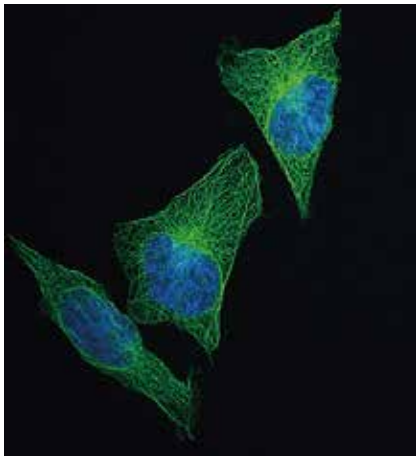
**Streptavidin FITC Conjugate**

0.1mg/vial [S0966]

**Streptavidin R-PE Conjugate**

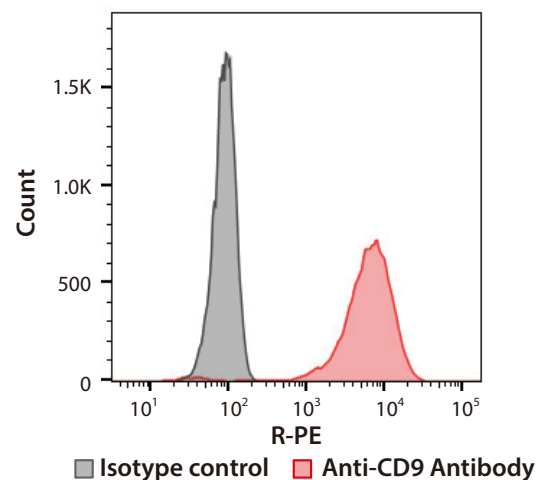
0.1mg/vial [T3885]

## Applications



**Figure 1.**

The HeLa cells were incubated with properly diluted primary antibody (Mouse Anti  $\alpha$ -Tubulin IgG) and were further incubated with Goat Anti-Mouse IgG Biotin Conjugate [G0387] and Streptavidin FITC Conjugate [S0966] (green fluorescence). And then the nuclei was stained with DAPI 2HCl [A2412] (blue fluorescence). (Laser Scanning Microscope: Olympus FLUOVIEW FV 3000)



**Figure 2.**

The HeLa cells were incubated with Mouse Anti-CD9 Antibody (red line) or Mouse IgG2ak isotype control (black line). Subsequently, both were stained with Goat Anti-Mouse IgG Biotin Conjugate [G0387] and Streptavidin R-PE Conjugate [T3885]. (Flow cytometer: Sysmex RF-500)

## HRP-labeled Streptavidin

Streptavidin conjugated to horseradish peroxidase (HRP). It can be used in Western blotting and enzyme-linked immunosorbent assay (ELISA).

**Streptavidin HRP Conjugate**

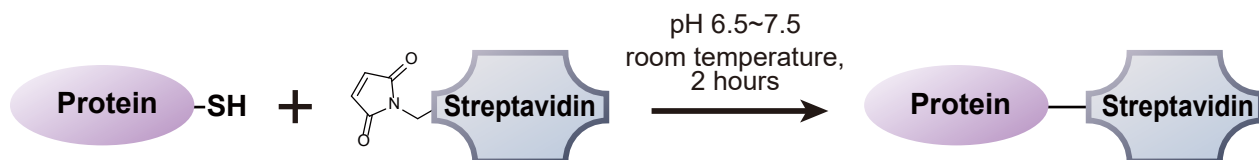
0.1mg/vial [S0972]

## Maleimide-labeled Streptavidin

- The product contains a thiol-reactive maleimide group and can be used for conjugation to proteins and peptides containing free thiols.
- The product is packaged for single use and does not require weighing before use.

### Streptavidin Maleimide Conjugate

0.5mg/vial [T3531]



## Europium Fluorophore DTBTA-Eu<sup>3+</sup>-labeled Streptavidin

Streptavidin is labeled with the europium fluorophore DTBTA-Eu<sup>3+</sup>. Highly sensitive detection of biotinylated antibodies, proteins, nucleic acids, etc. is possible by time-resolved fluorometric measurement.

### Streptavidin DTBTA-Eu<sup>3+</sup> Conjugate

0.1mg/vial [S0993]

#### No cross talk of excitation light

- Excitation wavelength  $Ex_{max}$  : 335 nm
- Emission wavelength  $Em_{max}$  : 616 nm

#### Sharpened emission spectrum

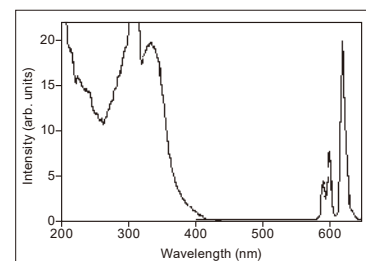
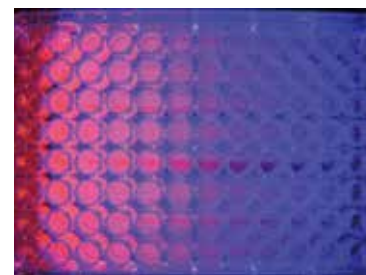
Large Stokes shift (the difference in wavelength between positions of the band maxima of the absorption and emission spectra)

#### Stable fluorescence in various aqueous buffers

Available in Tris, TE, PBS, etc., for wide use

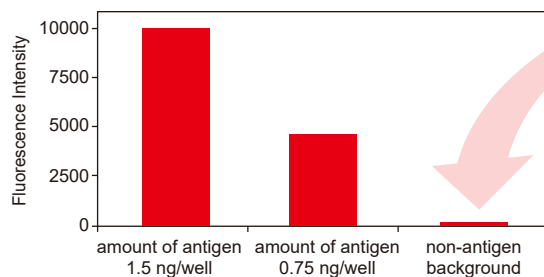
#### Long fluorescent life time ( $\tau = 1.02$ ms)

Time-resolved fluorometric measurement can remove background fluorescence from the sample matrix and often gives detectability better than one order of magnitude compared to those of conventional fluorometric assays.

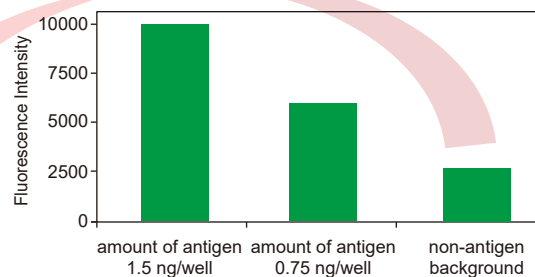


## Comparison of DTBTA-Eu<sup>3+</sup>-labeled Streptavidin and FITC-labeled Streptavidin

**Time-resolved fluorometric measurement can remove background fluorescence!  
To obtain a high SN ratio**



Streptavidin DTBTA-Eu<sup>3+</sup> Conjugate [S0993]



Streptavidin FITC Conjugate [S0966]

<Assay condition>

Dilute the Mouse IgG to each concentration. Coat 96-well plates with diluted Mouse IgG. Block the plates with BSA/TBST.

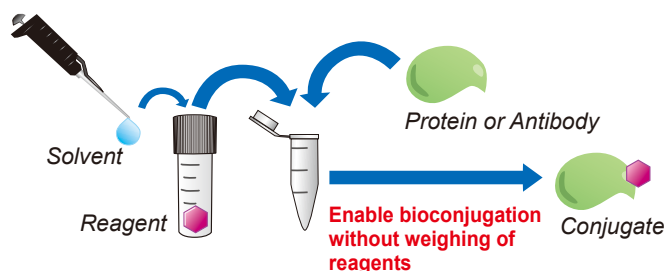
Next, add biotin-labeled anti-mouse IgG antibody [G0387] at 1  $\mu$ g/mL and incubate, and finally add each labeled streptavidin at 2.5  $\mu$ g/mL and incubate. Measure the fluorescence intensity of each well using a plate reader.

DTBTA-Eu<sup>3+</sup>; Ex: 340 nm, Em: 620 nm, Lag Time : 450  $\mu$ sec

FITC; Ex: 485 nm, Em: 520 nm

## Related Products : Pre-weighed Bioconjugation Reagents

Pre-divided products save the step of weighing.



### for Amino Groups

**Biotin-LC-LC-NHS** (2mg×5)

1set [B6096]

**Biotin-PEG2-NHS** (2mg×5)

1set [B6097]

**Sulfo-NHS-LC-Biotin** (2mg×3)

1set [U0145]

### for Click Reactions

**Biotin-azide** (2mg×5)

1set [A3420]

**Biotin-PEG3-Azide** (2mg×5)

1set [B6265]

**Biotin-PEG4-Azide** (2mg×5)

1set [B6266]

### for Carboxy Groups

**Biotin-C<sub>5</sub>-Amine** (2mg×5)

1set [B6294]

**Biotin-PEG2-Amine** (2mg×5)

1set [B6687]

**Biotin-PEG3-Amine** (2mg×5)

1set [B6688]

**Biotin-PEG4-Amine** (2mg×5)

1set [B6689]

## Related Products : Other Biotinylation Reagents

### for Amino Groups

**Biotin**

100mg / 1g / 5g [B0463]

**D-Biotin N-Succinimidyl Ester**

100mg / 1g [S0491]

**Biotin Pentafluorophenyl Ester**

50mg / 250mg [B3173]

**(+)-Biotin 4-Nitrophenyl Ester**

200mg [B4009]

**6-Biotinamidohexanoic Acid**

100mg [B2433]

**6-Biotinamidohexanoic Acid N-Succinimidyl Ester**

50mg [S0490]

**Biotin-PEG3-acetic Acid**

50mg [B5711]

**Biotin-PEG4-propionic Acid**

50mg / 250mg [B5562]

**Biotin-LC-LC**

100mg / 500mg [B6207]

**Biotin-PEG2-NHS**

25mg / 100mg [S0955]

**Biotin-LC-LC-NHS**

25mg / 100mg [S0956]

### for Carboxy Groups, Aldehydes and Ketones

**N-Biotinylethylenediamine**

50mg / 250mg [A3131]

**Biotin-C<sub>5</sub>-Amine**

25mg / 100mg [B6831]

**Biotin-PEG2-Amine**

25mg / 100mg [B3171]

**Biotin-PEG3-Amine**

25mg / 100mg [B3172]

**Biotin-PEG4-Amine**

10mg / 50mg [B5560]

**Biotin-PEG11-Amine**

10mg / 50mg [B5565]

### for Aldehydes and Ketones

**Biotin Hydrazide**

25mg / 100mg [B2431]

**Biotin-LC-Hydrazide**

25mg / 100mg [H1071]

**Biotin-PEG2-Hydrazide**

10mg / 50mg [B5577]

**Biotin-PEG4-Hydrazide**

10mg / 50mg [B5578]

## Related Products : Other Biotinylation Reagents

### for Thiol Groups

<b>N-[2-(2-Pyridyldithio)ethyl]biotinamide</b>	10mg / 50mg [P2471]
<b>Biotin-HPDP</b>	25mg / 100mg [B5749]
<b>Maleimide-PEG2-Biotin</b>	50mg [B3174]
<b>Biotin-PEG6-Maleimide</b>	10mg / 50mg [B5563]

### for Click Reactions

<b>Biotin-azide</b>	100mg [A2524]
<b>Biotin-PEG3-Azide</b>	100mg [A2523]
<b>Biotin-PEG4-Azide</b>	100mg [B5546]

### for Others

<b>Fmoc-Lys(biotinyl)-OH</b>	200mg / 1g [F1042]
<b>Biotin-PEG3-PhN<sub>3</sub></b>	50mg / 200mg [B6585]
<b>Biotin-PEG3-TFPA</b>	50mg / 200mg [B6580]
<b>Biotin-PEG3-Dz</b>	50mg / 200mg [B6572]

## Related Products : Desthiobiotinylation Reagents

<b>Hydrazide-PEG4-Desthiobiotin</b>	25mg [H1667]
<b>Azide-PEG3-Desthiobiotin</b>	10mg [A3202]

## Related Products : Biotin-labeled Antibodies

<b>Anti-αGal Polyclonal Antibody Biotin Conjugate</b>	0.05mg/vial [A3144]
<b>Anti-Gb<sub>3</sub> Monoclonal Antibody Biotin Conjugate</b>	0.1mg/vial [A2822]
<b>Anti-GST Monoclonal Antibody Biotin Conjugate</b>	0.05mg/vial [A3226]
<b>Anti-NeuGc Polyclonal Antibody Biotin Conjugate</b>	0.05mg/vial [A3294]
<b>Anti-Protein A Chicken Polyclonal Antibody Biotin Conjugate</b>	0.05mg/vial [A3045]
<b>Anti-6xHis Monoclonal Antibody (6A12) Biotin Conjugate</b>	0.05mg/vial [A3010]
<b>Goat Anti-Mouse IgG Biotin Conjugate</b>	0.1mg/vial [G0387]
<b>Goat Anti-Mouse IgM Biotin Conjugate</b>	0.1mg/vial [G0432]
<b>Goat Anti-Rabbit IgG Biotin Conjugate</b>	0.1mg/vial [G0597]
<b>Mouse Anti-DYKDDDDK Monoclonal Antibody Biotin Conjugate</b>	0.05mg/vial [M3400]
<b>Mouse Anti-Human IgG Fc Biotin Conjugate</b>	0.1mg/vial [M3053]
<b>Sheep Anti-Chicken IgY Biotin Conjugate</b>	0.1mg/vial [H1619]

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