

## RayBiotech, Inc.

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# Certificate of Analysis and Data Sheet

## Streptavidin

**Catalog No.**  
228-11469

**Source**  
*Streptomyces avidinii*

### **Introduction:**

Streptavidin is a tetrameric protein secreted by *Streptomyces avidinii* which binds firmly to biotin. Streptavidin is widely used in molecular biology through its unique high affinity for the vitamin biotin. The dissociation constant (K<sub>d</sub>) of the biotin-streptavidin complex is about ~10<sup>-15</sup> mol/L. The strong affinity recognition of biotin and biotinylated molecules has made streptavidin one of the most important components in diagnostics and laboratory kits. The streptavidin/biotin system has one of the biggest free energies of association of yet observed for noncovalent binding of a protein and small ligand in aqueous solution (K<sub>assoc</sub> = 10<sup>14</sup>). The complexes are also extremely stable over a wide range of temperature and pH.

### **Description:**

The Streptavidin preparation contains an N- and C-terminal shortened variant (core streptavidin) with improved properties concerning homogeneity, solubility, resistance towards proteolytic degradation and accessibility of the biotin binding pocket as compared to native streptavidin. Streptavidin has a molecular weight of 53 kDa.

### **Source:**

*Bacterium Streptomyces avidinii*

### **Physical Appearance:**

Sterile Filtered lyophilized powder.

### **Formulation:**

Lyophilized in 10 mM potassium phosphate buffer pH 6.5.

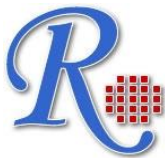
### **Solubility:**

Gives a clear solution at 5 mg/ml in 0.1 M NaCl.

### **Application:**

Streptavidin may be used to visualize biotin conjugated molecules in ELISA, blotting and histological technique.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Stability:***

Streptavidin although stable at 4°C for 3 weeks, should be stored desiccated below -18°C. For longer storage in dissolved form add 1mM EDTA and/or 0.02 % NaN<sub>3</sub> or pass the solution through a sterile filter.

**Please prevent freeze-thaw cycles.**

### ***Specific Activity:***

Greater than 15.3 U/mg, 1 unit binds 1 µg biotin.

### ***Proteolytic Activity:***

Less than 10<sup>-3</sup> U/mg protein (Azocoll, 25°C, 24 h, pH 8.0).

### ***Purity:***

Greater than 95.0% as determined by SDS-PAGE.

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