

Streptavidin

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 55kDa.

Catalog #: PRPS-290

For research use only.

Source: Bacterium *Streptomyces avidinii*.

Physical Appearance: Sterile Filtered lyophilized powder.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Formulation:

Lyophilized (1mg/ml) in 50mM NaCl, pH 9.0.

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 % NaN₃ or pass the solution through a sterile filter. Please prevent freeze-thaw cycles.

Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

Applications:

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

Solubility:

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

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_d) of the biotin-streptavidin complex is about ~10⁻¹⁵ 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_{assoc} = 10¹⁴). The complexes are also extremely stable over a wide range of temperature and pH.

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