

Streptavidin

Catalogue Number	PRO-283
Introduction	Streptavidin is a tetrameric protein secreted by <i>Streptomyces avidinii</i> 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} = 10 ¹⁴). 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 55kDa.
Source	Bacterium <i>Streptomyces avidinii</i> .
Physical Appearance	Sterile Filtered lyophilized powder.
Formulation	Lyophilized (1mg/ml) in 50mM NaCl, pH 9.0.
Solubility	Gives a clear solution at 5mg/ml in 0.1M NaCl.
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 ₃ or pass the solution through a sterile filter. Please prevent freeze-thaw cycles.
Application	Streptavidin may be used to visualize biotin conjugated molecules in ELISA, blotting and histological technique.
Specific Activity	Greater than 15.7 U/mg, 1 unit binds 1µg biotin.
Proteolytic Activity	Less than 10 ⁻³ U/mg protein (Azocoll, 25°C, 24 h, pH 8.0).
Purity	Greater than 95.0% as determined by SDS-PAGE.
Usage	Gentaur'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.