

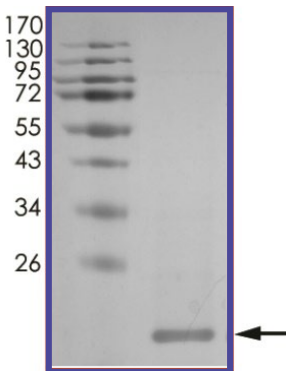
SPECIFICATION SHEET

Product Name: Streptavidin
Catalog # ST01-E511H

Product Description: Recombinant Streptavidin (aa 25-183) from *Streptomyces avidinii* was expressed in *E. coli* using N-terminal His tag.

Storage and Stability: Store at -70°C . To avoid repeated handling and multiple freeze/thaw cycles aliquot diluted product into smaller quantities.

Data for a Sample Lot:

Name	: Streptavidin
Alternate Names	: SA
Source	: <i>Streptomyces avidinii</i>
Accession Numbers	: Genbank: X03591 UniProt: P22629
Host	: <i>E. coli</i>
Formulation	: Protein stored in 50 mM Na ₂ HPO ₄ pH7.5, 300 mM NaCl, 200 mM imidazole, 10% glycerol, 1 mM DTT
Molecular weight	: Calculated: 22 kDa Observed: ~22 kDa
Purity	: The purity was determined to be >80% by densitometry
Gel Image	

Scientific Background

Streptavidin (SA) is a tetrameric protein originating from the bacterium *Streptomyces avidinii*. Each subunit of the streptavidin tetramer can associate with one biotin small vitamin molecule. Although the SA-biotin interaction is non-covalent, it has an extremely high affinity ($K_d \sim 10^{-14}$ M) (1). The SA-Biotin complex is highly thermostable and resistant to extreme pH, denaturing reagents, and enzyme degradation (2). By targeting biotin to biomolecules this interaction with SA can be exploited in a number of biochemical assays (3).

References

1. Weber PC, Cox MJ, Salemme FR, Ohlendorf DH. 1987. Crystallographic data for *Streptomyces avidinii* streptavidin. J Biol Chem. 262(26):12728-9.
2. González M, Argaraña CE, Fidelio GD. 1999. Extremely high thermal stability of streptavidin and avidin upon biotin binding. Biotechnol Bioeng. 66(1-4):67-72.
3. Dundas CM, Demonte D, Park S. 2013. Streptavidin-biotin technology: improvements and innovations in chemical and biological applications. Appl Microbiol Biotechnol. 97(21):9343-53.