ALPHA DIAGNOSTIC INTERNATIONAL

Life Technologies™ Your Molecular & Cell Technology Partner

Product Data Sheet

Streptavidin (S. avidinii)

½ **Cat#**	SVDN11-R-1	Purified Streptavidin	**Size**: 1 mg
½ **Cat#**	SVDN11-R-5	Purified Streptavidin	**Size**: 5 mg

Streptavidin is a 53 Kda tetrameric protein purified from the bacterium Streptomyces avidinii. It finds wide uses in immunhoassay and molecular biology due to its extraordinarily strong affinity for the vitamin biotin; the dissociation constant (Kd) of the biotin-streptavidin complex is on the order of ~10-15 mol/L, ranking among one of the strongest known non-covalent interactions. There are considerable differences in the composition of avidin (found in egg white) and streptavidin, but they are remarkably similar in other respects. Both proteins form tetrameric complexes to function in which each subunit can bind one molecule of biotin.

Streptavidin is much less soluble in water than avidin, and it lacks avidin's extensive glycosylation. Streptavidin has a mildly acidic isoelectric point (pI) of ~5. Because streptavidin lacks any carbohydrate modification and has a near-neutral pI, it has the advantage of much lower nonspecific binding than avidin. Deglycosylated avidin is more comparable to the size, pI and nonspecific binding of streptavidin.

Streptavidin's affinity for biotin is exploited in wide ranging biochemical assays, including western blot, ELISA, ELISPOT and pull-down assays. Streptavidin immobilized onto solid supports (ELISA plates, agarose, nitrocellulose etc) is also used as purification media to capture biotin-labelled protein or nucleic acid molecules. For example, cell surface proteins can be specifically labelled with membrane impermeable biotin reagent, then specifically captured using an avidin-based support.

Form and Storage

The Streptavidin is isolated from S. avidinii by purification from fermentation broth (purity >95%). The 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 monomer is ~16 kda and homeotetramer ~53-55 kda. Purified Streptavidin has very low charged around pH 7, reducing NSB to charged molecules to a very limited level. Purified strepatvidin is supplied as liquid or lyophilized powder in 10mM potassium phosphate buffer pH 6.5. Reconstiute in distilled water at a desired concentration.

Store unopended vials at 4oC and the recconstiuted protein at –20oC or below. Stability is at least 1 year in powder form and at least 6 months after reconstitution.

Binding Capacity

Binding capacity of the strepatvidin is determined to be ~15-20 units/mg. One unit is defines as the amount of protein which binds 1 ug of biotin (Green NM et al (1963) Biochem. J. 89, 599).

Endotoxin:
Less than 0.1 ng/µg (IEU/µg) of Streptavidin.

Proteolytic Activity:
Less than 10-3 U/mg protein (Azocoll, 25°C, 24 h, pH 8.0).

This product is for in vitro research use only.

Other related items

Streptavidin coated ELISA plates

Antibody/Protein Biotinylation kits

Catalog#	ProdDescription
20365	Streptavidin-Peroxidase (HRP) conjugate
20366	Streptavidin-AP (Alk Phosphatase) conjugate
20367	Streptavidin-Fluorescein (FITC) conjugate
20368	Streptavidin-Rhodamine (TRITC) conjugate
20369	Streptavidin-Phycoerythrin (PE) conjugate

SVDN55-5P Streptavidin coated ELISA plates (8 wells strip, 96 wells/plates) 5 plates/pk

SVDN11-R-1–5-Streptavidin-Pure 150813A

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com