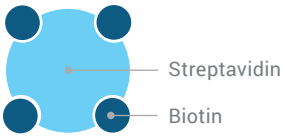
Agilent Streptavidin

High quality native and recombinant streptavidin products

Achieve maximum performance with Agilent Streptavidin, available in native and recombinant forms with exceptional lot-to-lot consistency.

Streptavidin is a tetramer, with each monomer containing a single biotin binding site. It may be used to bind biotinylated molecules in solution, as a capture agent for biotinylated molecules when immobilized (beads, microplates, membranes), or as a conjugation partner for other proteins to take advantage of the streptavidin-biotin interaction.



Agilent streptavidin is supplied lyophilized and is readily soluble in water or salt-containing buffers, at concentrations of up to 50 mg/mL or more.

Streptavidin
SA10 Streptavidin (native) Purified from large-scale fermentation cultures of *Streptomyces avidinii*
SA26 Streptavidin-plus (recombinant) Recombinant gene from *Streptomyces avidinii* expressed in *E. coli*, protein purified from fermentation culture

Streptavidin options

SA10 Streptavidin is our longest-established streptavidin product, being a widely-used workhorse of the industry for over 25 years. It is purified to a high degree from fermentations of *Streptomyces avidinii* and has a molecular weight of 52 kDa. SA10 is also known as 'core' streptavidin, due to the processing of full-length streptavidin protein that occurs in cell culture.[1]

SA26 Streptavidin-plus is a recombinant form of streptavidin made in *E. coli* and has a molecular weight of 55 kDa. Streptavidin-plus has been found to have superior performance in certain applications, such as when immobilized as an ELISA capture agent.

Visit the Agilent streptavidin webpage for ordering information.

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Product Description	Part Number	Pack size*	Tetramer Size	Specific Activity**	Applications
Streptavidin Native from *Streptomyces avidinii* ('core' streptavidin)	SA10-10	10 mg	~52 kDa	≥ 14.0 U/mg	Conjugation, ELISA
	SA10-100	100 mg			
	SA10	1000 mg			
Streptavidin-plus Recombinant gene from *Streptomyces avidinii* expressed in *E. coli*	SA26-10	10 mg	~55 kDa	≥ 15.0 U/mg	Conjugation, ELISA, performs well in applications where streptavidin is immobilized
	SA26-100	100 mg			

** These streptavidin products are available in various pack sizes and are supplied lyophilized. Large quantities are available from single lots, with exceptional lot-to-lot consistency.*

*** Specific activity is measured by the industry-standard HABA dye-binding assay. The specific activity measurement is higher still when measured by the alternative biotin-titration assay used by some suppliers.*

Immobilized streptavidin

Streptavidin-Agarose is streptavidin attached to beads of cross-linked 4.3% agarose with a bead size distribution of 75–300 microns.

The biotin binding capacity enables immobilization of biotinylated molecules. Applications include immobilization of biotinylated antibodies for affinity purification of associated antigens.

Streptavidin is attached to the beads through a stable amide linkage with a 15-carbon spacer arm. The linkage is stable through a wide pH range (4–11). The streptavidin content is >1 mg/mL of packed beads.

Visit the Agilent immobilized streptavidin webpage for ordering information.

Product Description	Part Number	Pack Size
Streptavidin-Agarose	CJ30R-10	10 mL
	CJ30R-20	20 mL
	CJ30R	100 mL

[1] *Pähler A. et al. Characterization and crystallization of core streptavidin. J. Biol. Chem. 1987, 262(29), 13933-37.*

Streptavidin enzyme conjugates

Streptavidin-HRP (horseradish peroxidase) conjugate is optimized for ELISA procedures and applications requiring a high signal-to-noise ratio. The conjugate is made with an improved non-mercury stabilizer ensuring long-term stability.

We also offer HRP and AP (alkaline phosphatase) conjugate stabilizers.

Visit the Agilent streptavidin enzyme conjugate webpage for ordering information.

Product Description	Part Number	Pack Size
Streptavidin-HRP conjugate ELISA Optimized for applications that require high signal-to-noise ratios. Made with improved non-mercury stabilizer.	CJ30H-3	3 x 1 mL
	CJ30H-10	10 mL
	CJ30H-100	100 mL
HRP conjugate stabilizer For dilution (up to 1,000-fold) of HRP conjugates (50% with deionized water). Contains a mercury-free azide-free preservative.	CJ95	500 mL
	CJ95-1000	1000 mL
AP conjugate stabilizer For dilution (up to 1,000-fold) of AP conjugates (50% with deionized water). Contains a mercury-free azide-free preservative	CJ90	500 mL
	CJ90-1000	1000 mL

Streptavidin Tips & Tricks

Here are some of the most frequently asked questions regarding Agilent Streptavidin.
If you have additional questions, please contact Agilent.

Can I use water to dissolve the lyophilized Streptavidin, or do I have to use PBS?

Streptavidin is readily soluble in water or salt-containing buffers, up to 50 mg/mL or more. There is a tendency for lyophilized streptavidin to aggregate when it is redissolved in water or other low ionic strength buffers at neutral or acidic pH. Agilent Streptavidin has been lyophilized from a dilute sodium chloride solution at mildly alkaline pH to minimize aggregate formation. In rare cases, Streptavidin may contain a small amount of insoluble material when dissolved in de-ionized water or low ionic strength buffers, either when it is initially dissolved or after a freeze-thaw cycle. This effect is generally not seen in the presence of salt-containing buffers such as PBS. If undissolved material is observed, it can be removed by centrifugation and does not constitute a significant fraction of the total protein.

How do I reconstitute Streptavidin to avoid aggregate formation?

Our standard technique for a 1 g or 100 mg bottle is to add enough buffer to dissolve to 20 to 50 mg/mL, and immediately begin swirling the bottle. For example, you can hold the bottle on a countertop and move it fairly rapidly in a tight circular motion. Keep swirling until the protein has dissolved, which might take a couple of minutes, to minimize aggregate formation. If there is a little cloudiness afterwards, remove it by centrifugation before using the material. When dissolved this way, the recovery after centrifugation should be as stated on the bottle when measured by A280.

Avoiding aggregate formation is most important when redissolving in water or low ionic strength buffers (as mentioned in the SA10 Tech Data Sheet). Reconstituting streptavidin in PBS and higher ionic strength buffers seems to be less sensitive to constant agitation. However, do not just add the buffer and leave the bottle sitting undisturbed while waiting for the streptavidin to dissolve, even when using PBS.

For 10 mg samples and other samples dispensed to microcentrifuge tubes, add enough buffer to dissolve to 5 to 50 mg/mL. Then mix by pipetting up and down until the contents appear to have dissolved. With these small samples, redissolving is rapid.

Does the product have any additives such as salt?

Agilent Streptavidin is supplied lyophilized and contains ~0.9 mg protein/mg lyophilizate; the balance is sodium chloride. Therefore, every mg of lyophilized product contains 0.1 mg sodium chloride (10%). However, we dispense by protein content – if you purchase a gram of streptavidin, you receive a gram of streptavidin with additional salt, rather than a gram of total lyophilizate. We include information on the NaCl balance in case our customers weigh out the product.

What molecular weight should I observe for SA10 Streptavidin on an SDS-PAGE gel? The Certificate of Analysis states that the product should run as predominantly a single band by SDS-PAGE?

Streptavidin is a homotetramer of ~52 kDa. With heat denaturation in SDS-PAGE sample buffer, streptavidin tetramers dissociate into monomers that run at ~13 kDa on an SDS-PAGE gel. The streptavidin must be boiled (e.g., for 20 minutes at 100 °C in sample loading buffer containing 0.2% SDS) to completely denature the protein before SDS-PAGE. Otherwise, complete dissociation of the tetramer into monomers may not be achieved, and the tetramer form may be present on SDS-PAGE. There are no cysteine residues in streptavidin (thus no disulfide bonds) so the presence or absence of a reducing agent like DTT or β-mercaptoethanol in the sample buffer will not make a difference.

Partnering with Agilent

The selection of a reliable supplier is essential, and enables you to have the utmost confidence in every detail of your products.

Partnering with Agilent guarantees this confidence and offers you:

Supply management	Scheduled deliveries and worldwide logistics minimize expense and risk, ensuring your proteins are in the right place, at the right time. Inventory management provides batch specific ordering and lot pre-qualification when needed.
Flexibility	Custom quality and supply agreements. Small to large batch sizes. Ability to supply large quantities at short notice.
Quality	Bioanalytical proteins with proven performance, high purity, and reproducibility achieved through robust manufacturing processes.
Expertise	Access to 30 years experience in the development and manufacturing of high-performance, consistent streptavidin and phycobiliprotein products

Don't know which streptavidin would work for your application? If you require a sample to test, please contact Agilent.

Learn more:
www.agilent.com/chem/proteins-conjugates

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