## SANTA CRUZ BIOTECHNOLOGY, INC.

# Streptavidin (Strep-10): sc-69710



## BACKGROUND

Streptavidin is a tetrameric protein purified from Streptomyces avidinii that binds very tightly to the vitamin biotin with one of the strongest known biological and noncovalent interactions. Each monomer of Streptavidin binds one molecule of biotin. The strong Streptavidin-biotin bond can be used to "glue" various chemicals onto surfaces and to link together molecules such as radio-isotopes and monoclonal antibodies. Streptavidin is widely utilized in scientific laboratories, commonly for the purification of immunochemistries. It is one of the most important components in diagnostics and laboratory kits.

## REFERENCES

- 1. Keefe, A.D., Wilson, D.S., Seelig, B. and Szostak, J.W. 2001. One-step purification of recombinant proteins using a nanomolar-affinity Streptavidinbinding peptide, the SBP-Tag. Protein Expr. Purif. 23: 440-446.
- 2. Pazy, Y., Kulik, T., Bayer, E.A., Wilchek, M. and Livnah, O. 2002. Ligand exchange between proteins. Exchange of biotin and biotin derivatives between Avidin and Streptavidin. J. Biol. Chem. 277: 30892-30900.
- 3. Sorensen, H.P., Sperling-Petersen, H.U. and Mortensen, K.K. 2003. A favorable solubility partner for the recombinant expression of Streptavidin. Protein Expr. Purif. 32: 252-259.
- 4. Hyre, D.E., Le Trong, I., Merritt, E.A., Eccleston, J.F., Green, N.M., Stenkamp, R.E. and Stayton, P.S. 2006. Cooperative hydrogen bond interactions in the Streptavidin-Biotin system. Protein Sci. 15: 459-467.
- 5. Howarth, M., Chinnapen, D.J., Gerrow, K., Dorrestein, P.C., Grandy, M.R., Kelleher, N.L., El-Husseini, A. and Ting, A.Y. 2006. A monovalent Strept-Avidin with a single femtomolar Biotin binding site. Nat. Methods 3: 267-273.
- 6. Le Trong, I., Aubert, D.G., Thomas, N.R. and Stenkamp, R.E. 2006. The high-resolution structure of (+)-epi-biotin bound to Streptavidin. Acta Crystallogr. D Biol. Crystallogr. 62: 576-581.
- 7. Wu, K.K. 2006. Analysis of protein-DNA binding by Streptavidin-agarose pulldown. Methods Mol. Biol. 338: 281-290.
- 8. Miglino, R., Jodlowska, A., Pappu, H.R. and van Schadewijk, T.R. 2007. A semi-automated and highly sensitive Streptavidin magnetic capturehybridization RT-PCR assay: application to genus-wide or species-specific detection of several viruses of ornamental bulb crops. J. Virol. Methods 146: 155-164.
- 9. Palmowski, M., Morgenstern, B., Hauff, P., Reinhardt, M., Huppert, J., Maurer, M., Woenne, E.C., Doerk, S., Ladewig, G., Jenne, J.W., Delorme, S., Grenacher, L., Hallscheidt, P., Kauffmann, G.W., Semmler, W., et al. 2008. Pharmacodynamics of Streptavidin-coated cyanoacrylate micro-bubbles designed for molecular ultrasound imaging. Invest. Radiol. 43: 162-169.

#### SOURCE

Streptavidin (Strep-10) is a mouse monoclonal antibody raised against Streptavidin of Streptomyces avidinii origin.

#### **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

### PRODUCT

Each vial contains 500  $\mu$ l culture supernatant containing IgG<sub>1</sub> with < 0.1% sodium azide and 0.7% stabilizer protein.

## **APPLICATIONS**

Streptavidin (Strep-10) is recommended for detection of Streptavidin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:10-1:200); permits the formation of antibody-Streptavidin complexes, thus enhancing the sensitivity of the detection system; non cross-reactive with Biotin, Digoxigenin, Avidin or BSA.

Molecular Weight of Streptavidin: 24 kDa.

#### **STORAGE**

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliguots in order to avoid repeated freeze/ thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

#### **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.