SANTA CRUZ BIOTECHNOLOGY, INC.

StAR (h): 293 Lysate: sc-112333

BACKGROUND

Steroidogenic acute regulatory (StAR) protein appears to mediate the rapid increase in pregnenolone synthesis stimulated by tropic hormones. StAR increases pregnenolone synthesis more than four-fold and a major StAR transcript of 1.6 kb is found in ovary and testis. During ongoing growth and differentiation of the follicle of the ovary, the immunoreactivity of StAR tends to shift from the granulosa cells of early antral follicles to the theca cell layers in the adult. The first and rate-limiting step of steroidogenesis is the transfer of cholesterol from the outer mitochondrial membrane to the inner membrane where it is converted to pregnenolone by cytochrome P450 side-chain cleavage. This reaction is modulated in the gonads and adrenals by StAR, however, the mechanism used by StAR is not understood. This protein was isolated from a human adrenal cortex library and nonsense mutations in the StAR gene can cause lipoid congenital adrenal hyperplasia. The gene which encodes StAR maps to human chromosome 8p11.23.

REFERENCES

1. Sugawara, T., Holt, J.A., Driscoll, D., Strauss, J.F., 3rd, Lin, D., Miller, W.L., Patterson, D., Clancy, K.P., Hart, I.M., Clark, B.J., et al. 1995. Human steroidogenic acute regulatory protein: functional activity in COS1 cells, tissue-specific expression, and mapping of the structural gene to 8p11.2 and a pseudogene to chromosome 13. Proc. Natl. Acad. Sci. USA 92: 4778-4782.
2. Lin, D., Sugawara, T., Strauss, J.F., 3rd, Clark, B.J., Stocco, D.M., Saenger, P., Rogol, A. and Miller, W.L. 1995. Role of steroidogenic acute regulatory protein in adrenal and gonadal steroidogenesis. Science 267: 1828-1831.
3. Thompson, W.E., Powell, J., Thomas, K.H. and Whittaker, J.A. 1999. Immunolocalization and expression of the steroidogenic acute regulatory protein during the transitional stages of rat follicular differentiation. J. Histochem. Cytochem. 47: 769-776.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600617. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/.
5. Thomson, M. 2003. Does cholesterol use the mitochondrial contact site as a conduit to the steroidogenic pathway? Bioessays 25: 252-258.

CHROMOSOMAL LOCATION

Genetic locus: STAR (human) mapping to 8p11.23.

PRODUCT

StAR (h): 293 Lysate represents a lysate of human StAR transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

StAR (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive StAR antibodies. Recommended use: 10-20 µl per lane.

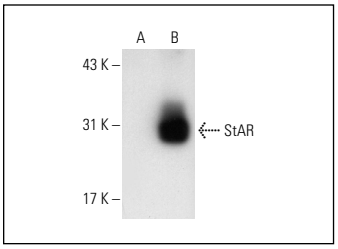
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-tranfected 293 cells.

StAR (D-2): sc-166821 is recommended as a positive control antibody for Western Blot analysis of enhanced human StAR expression in StAR transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



StAR (D-2): sc-166821. Western blot analysis of StAR expression in non-transfected: sc-110760 (**A**) and human StAR transfected: sc-112333 (**B**) 293 whole cell lysates.

RESEARCH USE

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