

StAR (h2): 293T Lysate: sc-170669

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

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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 (h2): 293T Lysate represents a lysate of human StAR transfected 293T 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 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive StAR antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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