SANTA CRUZ BIOTECHNOLOGY, INC.

StAR (FL-285): sc-25806

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: STAR (human) mapping to 8p11.23; Star (mouse) mapping to 8 A2.

SOURCE

StAR (FL-285) is a rabbit polyclonal antibody raised against amino acids 1-285 representing full length StAR of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

StAR (FL-285) is recommended for detection of StAR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

StAR (FL-285) is also recommended for detection of StAR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for StAR siRNA (h): sc-44121, StAR siRNA (m): sc-153878, StAR shRNA Plasmid (h): sc-44121-SH, StAR shRNA Plasmid (m): sc-153878-SH, StAR shRNA (h) Lentiviral Particles: sc-44121-V and StAR shRNA (m) Lentiviral Particles: sc-153878-V.

Molecular Weight of StAR: 30 kDa.

Positive Controls: StAR (h): 293 Lysate: sc-112333 and rat adrenal gland extract: sc-364802.

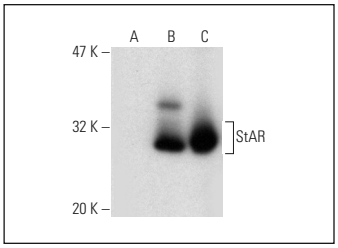
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

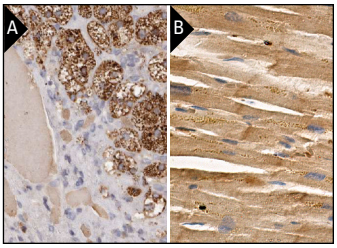
RESEARCH USE

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

DATA



StAR (FL-285): sc-25806. Western blot analysis of StAR expression in non-transfected: sc-110760 (**A**) and human StAR transfected: sc-112333 (**B**) 293 whole cell lysates and rat adrenal gland tissue extract (**C**).



StAR (FL-285): sc-25806. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of cortical cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Glaser, S., et al. 2008. Progesterone stimulates the proliferation of female and male cholangiocytes via autocrine/paracrine mechanisms. Am. J. Physiol. Gastrointest. Liver Physiol. 295: G124-G136.
2. Mikhaylova, I.V., et al. 2008. Leukemia inhibitory factor as a regulator of steroidogenesis in human NCI-H295R adrenocortical cells. J. Endocrinol. 199: 435-444.
3. Nanjappa, M.K., et al. 2012. The industrial chemical bisphenol A (BPA) interferes with proliferative activity and development of steroidogenic capacity in rat Leydig cells. Biol. Reprod. 86: 1-12.
4. Shimizu-Albergine, M., et al. 2012. cAMP-specific phosphodiesterases 8A and 8B, essential regulators of Leydig cell steroidogenesis. Mol. Pharmacol. 81: 556-566.
5. Burrone, L., et al. 2012. Steroidogenic gene expression following D-aspartate treatment in frog testis. Gen. Comp. Endocrinol. 175: 109-117.
6. Sasso, O., et al. 2012. Implication of allopregnanolone in the antinociceptive effect of N-palmitoylethanolamide in acute or persistent pain. Pain 153: 33-41.
7. Wasilewski, M., et al. 2012. Optic atrophy 1-dependent mitochondrial remodeling controls steroidogenesis in trophoblasts. Curr. Biol. 10: 1228-1234.