SANTA CRUZ BIOTECHNOLOGY, INC.

HSFY (I-12): sc-82634

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

There are two genes that express different HSFY proteins, designated HSFY1 and HSFY2, which are thought to be nearly identical. Both HSFY (heat shock transcription factor, Y-linked) proteins are also known as HSF2L (heat shock transcription factor 2-like protein) and are 401 amino acids in length, expressed in testis, present in Sertoli and spermatogenic cells and localized to the cytoplasm and nucleus. HSFY proteins belong to the HSF (heat shock factor) family, which activate the transcription of heat shock proteins and contain an HSF-type DNA-binding domain. HSFY2 is active in two developmental pathways, embryogenesis and spermatogenesis, and is highly expressed. HSFY2 may regulate the promoter of many genes from the HSP 70 gene family, thus regulating their expression and the expression of many germ cell proteins. During spermatogenesis, HSFY proteins are translocated from the cytoplasm to the nucleus. In Sertoli cell-only syndrome, HSFY proteins are only localized to the cytoplasm. AZFs (azoospermic factors), such as AZFb, are regions on the long arm of chromosome Y that, when deleted, are thought to be involved in male azoospermia. A region of DNA that encodes a part of the genes of both HSFY1 and HSFY2 is located on the AZFb region on chromosome Y and, as such, may be involved in male fertility. Mouse Hsfy2 is the functional ortholog of human HSFY1 and is expressed specifically in round spermatids, while the two human HSFY proteins are expressed in both round spermatids and spermatogonia.

REFERENCES

1. Skaletsky, H., et al. 2003. The male-specific region of the human Y chromosome is a mosaic of discrete sequence classes. Nature 423: 825-837.
2. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 400029. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Shinka, T., et al. 2004. Molecular characterization of heat shock-like factor encoded on the human Y chromosome, and implications for male infertility. Biol. Reprod. 71: 297-306.
4. Tessari, A., et al. 2004. Characterization of HSFY, a novel AZFb gene on the Y chromosome with a possible role in human spermatogenesis. Mol. Hum. Reprod. 10: 253-258.
5. Vinci, G., et al. 2005. A deletion of a novel heat shock gene on the Y chromosome associated with azoospermia. Mol. Hum. Reprod. 11: 295-298.
6. Sato, Y., et al. 2006. Altered expression pattern of heat shock transcription factor, Y chromosome (HSFY) may be related to altered differentiation of spermatogenic cells in testes with deteriorated spermatogenesis. Fertil. Steril. 86: 612-618.

CHROMOSOMAL LOCATION

Genetic locus: HSFY1 (human) mapping to Yq11.222, HSFY2 (human) mapping to Yq11.222; Hsfy2 (mouse) mapping to 1 C1.3.

SOURCE

HSFY (I-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of HSFY2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82634 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-82634 X, 100 µg/0.1 ml.

APPLICATIONS

HSFY (I-12) is recommended for detection of HSFY1 of human origin and HSFY2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HSFY (I-12) is also recommended for detection of HSFY1 in additional species, including bovine.

Suitable for use as control antibody for HSFY siRNA (h): sc-75308, HSFY siRNA (m): sc-75309, HSFY shRNA Plasmid (h): sc-75308-SH, HSFY shRNA Plasmid (m): sc-75309-SH, HSFY shRNA (h) Lentiviral Particles: sc-75308-V and HSFY shRNA (m) Lentiviral Particles: sc-75309-V.

HSFY (I-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HSFY1: 45 kDa.

Molecular Weight of HSFY2: 45 kDa.

Molecular Weight of Hsfy2 in mouse: 49 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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