SANTA CRUZ BIOTECHNOLOGY, INC.

DMRTC1 (S-13): sc-131503

BACKGROUND

In humans, the DMRT (doublesex and mab-3 related transcription factor) genes encode a large family of transcription factors that are related to the *Drosophila* doublesex proteins. Expressed primarily in the gonads, DMRT proteins contain cysteine-rich DNA-binding motifs and are thought to play an important role in sexual development. DMRTC1 (DMRT-like family C1) is a 182 amino acid nuclear protein that exists as three alternatively spliced isoforms and belongs to the DMRT family. Involved in sexual development, DMRTC1 is expressed in Sertoli cells in male testis but, unlike other DMRT family members, it does not contain a DM DNA-binding domain. The gene encoding DMRTC1 maps to the human X chromosome, which consists of about 153 million base pairs and nearly 1,000 genes. The combination of an X and Y chromosome lead to normal male development while two copies of X lead to normal female development. There are a number of conditions related to an unsual number and combination of sex chromosomes being inherited, including Klinefelter's syndrome, Turner's syndrome, and Triple X syndrome.

REFERENCES

1. Givens, J.R., et al. 1975. Features of Turner's syndrome in women with polycystic ovaries. Obstet. Gynecol. 45: 619-624.
2. Raymond, C.S., et al. 1998. Evidence for evolutionary conservation of sex-determining genes. Nature 391: 691-695.
3. Bernardino-Sgherri, J., et al. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. Cytogenet. Genome Res. 99: 85-91.
4. Cantagrel, V., et al. 2004. Disruption of a new X linked gene highly expressed in brain in a family with two mentally retarded males. J. Med. Genet. 41: 736-742.
5. Stevenson, R.E. 2005. Advances in X-linked mental retardation. Curr. Opin. Pediatr. 17: 720-724.
6. Deeb, S.S. 2005. The molecular basis of variation in human color vision. Clin. Genet. 67: 369-377.
7. Hayashi, T., et al. 2006. Novel form of a single X-linked visual pigment gene in a unique dichromatic color-vision defect. Vis. Neurosci. 23: 411-417.
8. Augui, S., et al. 2007. Sensing X chromosome pairs before X inactivation via a novel X-pairing region of the Xic. Science 318: 1632-1636.

CHROMOSOMAL LOCATION

Genetic locus: Dmrtc1a (mouse) mapping to X D.

SOURCE

DMRTC1 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DMRTC1 of mouse origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-131503 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DMRTC1 (S-13) is recommended for detection of DMRTC1 isoforms 1-3 of mouse and rat 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).

Suitable for use as control antibody for DMRTC1 siRNA (m): sc-143063, DMRTC1 shRNA Plasmid (m): sc-143063-SH and DMRTC1 shRNA (m) Lentiviral Particles: sc-143063-V.

Molecular Weight of DMRTC1 isoforms 1/2/3: 19/17/22 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.