

Tektin 4 (S-14): sc-169556

BACKGROUND

The Tektin proteins comprise a family of insoluble, α -helical, filament-forming peptides that interact with Tubulins and, via this interaction, form flagellar and ciliary microtubules. Tektin 4, also known as TEKT4, is a 435 amino acid protein belonging to the tektin family. Localizing to cytoplasm as well as haploid round spermatids in testis, Tektin 4 is expressed in the abaxial surface of outer dense fibers (ORFs) in sperm flagella. Deletion of Tektin 4 is associated with uncoordinated waveform propagation and reduced velocity of sperm flagellum, resulting in subfertility. Tektin 4 may also function as a structural component by forming filamentous polymers of ciliary and flagellar microtubules. The gene encoding Tektin 4 maps to human chromosome 2q11.1. The second largest human chromosome, chromosome 2 consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome.

REFERENCES

1. Ijdo, J.W., Baldini, A., Ward, D.C., Reeders, S.T. and Wells, R.A. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. *Proc. Natl. Acad. Sci. USA* 88: 9051-9055.
2. Stephens, R.E. and Lemieux, N.A. 1998. Tektins as structural determinants in basal bodies. *Cell Motil. Cytoskeleton* 40: 379-392.
3. Cao, W., Gerton, G.L. and Moss, S.B. 2006. Proteomic profiling of accessory structures from the mouse sperm flagellum. *Mol. Cell Proteomics* 5: 801-810.
4. Iida, H., Honda, Y., Matsuyama, T., Shibata, Y. and Inai, T. 2006. Tektin 4 is located on outer dense fibers, not associated with axonemal tubulins of flagella in rodent spermatozoa. *Mol. Reprod. Dev.* 73: 929-936.
5. Roy, A., Lin, Y.N., Agno, J.E., DeMayo, F.J. and Matzuk, M.M. 2007. Absence of Tektin 4 causes asthenozoospermia and subfertility in male mice. *FASEB J.* 21: 1013-1025.
6. Amos, L.A. 2008. The tektin family of microtubule-stabilizing proteins. *Genome Biol.* 9: 229.
7. Zuccarello, D., Ferlin, A., Garolla, A., Pati, M.A., Moretti, A., Cazzadore, C., Francavilla, S. and Foresta, C. 2008. A possible association of a human tektin-t gene mutation (A229V) with isolated non-syndromic asthenozoospermia: case report. *Hum. Reprod.* 23: 996-1001.
8. Roy, A., Lin, Y.N., Agno, J.E., DeMayo, F.J. and Matzuk, M.M. 2009. Tektin 3 is required for progressive sperm motility in mice. *Mol. Reprod. Dev.* 76: 453-459.

CHROMOSOMAL LOCATION

Genetic locus: TEKT4 (human) mapping to 2q11.1; Tekt4 (mouse) mapping to 17 A3.3.

SOURCE

Tektin 4 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Tektin 4 of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-169556 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Tektin 4 (S-14) is recommended for detection of Tektin 4 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); non cross-reactive with other Tektin family members.

Suitable for use as control antibody for Tektin 4 siRNA (h): sc-94396, Tektin 4 siRNA (m): sc-154184, Tektin 4 shRNA Plasmid (h): sc-94396-SH, Tektin 4 shRNA Plasmid (m): sc-154184-SH, Tektin 4 shRNA (h) Lentiviral Particles: sc-94396-V and Tektin 4 shRNA (m) Lentiviral Particles: sc-154184-V.

Molecular Weight of Tektin 4: 51 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.

STORAGE

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

PROTOCOLS

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