SANTA CRUZ BIOTECHNOLOGY, INC.

Odf2 (G-2): sc-393881

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The major cytoskeletal structures in the mammalian sperm tail are the outer dense fibers (ODF) and the fibrous sheath (FS). The ODFs are located on the outside of the axoneme, and they help maintain the passive elastic structures and elastic recoil of the sperm tail. Human ODFs consist of approximately 10 major and at least 15 minor proteins. The major proteins of the ODF include Odf1, Odf2, and Odf3, which compose a family of proteins that are preferentially expressed during mammalian spermiogenesis. The human Odf1 gene maps to chromosome 8q22.3. The human Odf2 gene maps to chromosome 9q34.11. Both Odf1 and Odf2 are exclusively expressed in testis. Odf2 interacts with Odf1 during assembly of the outer dense fibers by means of leucine zippers in both proteins. Odf1 can also self interact. The Odf proteins may be involved in male infertility as a result of flagellar dysfunction.

REFERENCES

1. Gastmann, O., et al. 1993. Sequence, expression, and chromosomal assignment of a human sperm outer dense fiber gene. Mol. Reprod. Dev. 36: 407-418.
2. Shao, X., et al. 1996. Self-interaction of the major 27-kilodalton outer dense fiber protein is in part mediated by a leucine zipper domain in the rat. Biol. Reprod. 55: 1343-1350.
3. Schalles, U., et al. 1998. Developmental expression of the 84-kDa Odf sperm protein: localization to both the cortex and medulla of outer dense fibers and to the connecting piece. Dev. Biol. 199: 250-260.
4. Shao, X., et al. 1998. Human outer dense fiber gene, Odf2, localizes to chromosome 9q34. Cytogenet. Cell Genet. 83: 221-223.
5. Petersen, C., et al. 1999. Outer dense fibre proteins from human sperm tail: molecular cloning and expression analyses of two cDNA transcripts encoding proteins of approximately 70 kDa. Mol. Hum. Reprod. 5: 627-635.
6. Shao, X., et al. 2001. Testicular protein SPAG5 has similarity to mitotic spindle protein deepest and binds outer dense fiber protein Odf1. Mol. Reprod. Dev. 59: 410-416.
7. Kierszenbaum, A.L. 2002. Keratins: unraveling the coordinated construction of scaffolds in spermatogenic cells. Mol. Reprod. Dev. 61: 1-2.

CHROMOSOMAL LOCATION

Genetic locus: ODF2 (human) mapping to 9q34.11; Odf2 (mouse) mapping to 2 B.

SOURCE

Odf2 (G-2) is a mouse monoclonal antibody raised against amino acids 86-385 mapping near the N-terminus of Odf2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Odf2 (G-2) is recommended for detection of Odf2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

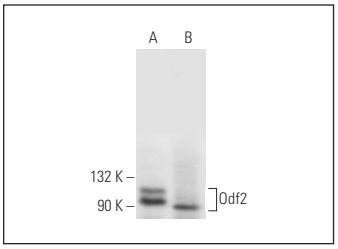
Odf2 (G-2) is also recommended for detection of Odf2 in additional species, including canine.

Suitable for use as control antibody for Odf2 siRNA (h): sc-43410, Odf2 siRNA (m): sc-43411, Odf2 shRNA Plasmid (h): sc-43410-SH, Odf2 shRNA Plasmid (m): sc-43411-SH, Odf2 shRNA (h) Lentiviral Particles: sc-43410-V and Odf2 shRNA (m) Lentiviral Particles: sc-43411-V.

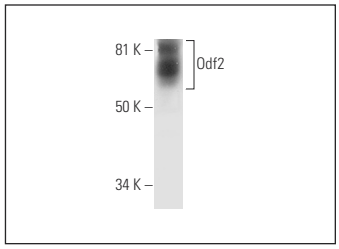
Molecular Weight of Odf2: 84 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, human testis extract: sc-363781 or rat testis extract: sc-2400.

DATA



Odf2 (G-2): sc-393881. Western blot analysis of Odf2 expression in NTERA-2 cl.D1 whole cell lysate (**A**) and human testis tissue extract (**B**).



Odf2 (G-2): sc-393881. Western blot analysis of Odf2 expression in rat testis tissue extract.

SELECT PRODUCT CITATIONS

1. Hossain, D., et al. 2020. Requirement of NPHP5 in the hierarchical assembly of basal feet associated with basal bodies of primary cilia. Cell. Mol. Life Sci. 77: 195-212.
2. Shen, X.L., et al. 2022. LUBAC regulates ciliogenesis by promoting CP110 removal from the mother centriole. J. Cell Biol. 221: e202105092.

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 for detailed protocols and support products.