

# Odf1 (E-11): sc-390152



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.

## CHROMOSOMAL LOCATION

Genetic locus: ODF1 (human) mapping to 8q22.3; Odf1 (mouse) mapping to 15 B3.1.

## SOURCE

Odf1 (E-11) is a mouse monoclonal antibody raised against a peptide mapping near the N-terminus of Odf1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Odf1 (E-11) is available conjugated to agarose (sc-390152 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390152 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390152 PE), fluorescein (sc-390152 FITC), Alexa Fluor® 488 (sc-390152 AF488), Alexa Fluor® 546 (sc-390152 AF546), Alexa Fluor® 594 (sc-390152 AF594) or Alexa Fluor® 647 (sc-390152 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390152 AF680) or Alexa Fluor® 790 (sc-390152 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390152 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Odf1 (E-11) is recommended for detection of Odf1 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).

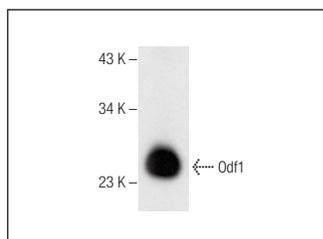
Odf1 (E-11) is also recommended for detection of Odf1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Odf1 siRNA (h): sc-106886, Odf1 siRNA (m): sc-150176, Odf1 shRNA Plasmid (h): sc-106886-SH, Odf1 shRNA Plasmid (m): sc-150176-SH, Odf1 shRNA (h) Lentiviral Particles: sc-106886-V and Odf1 shRNA (m) Lentiviral Particles: sc-150176-V.

Molecular Weight of Odf1: 27 kDa.

Positive Controls: rat testis extract: sc-2400.

## DATA



Odf1 (E-11): sc-390152. Western blot analysis of Odf1 expression in rat testis tissue extract.

## SELECT PRODUCT CITATIONS

1. Liang, J., et al. 2018. Gossypol promotes bone formation in ovariectomy-induced osteoporosis through regulating cell apoptosis. *Biomed Res. Int.* 2018: 3635485.
2. Liu, C., et al. 2023. CCDC176 stabilizes microtubule doublets 1 and 9 to ensure proper sperm movement. *Curr. Biol.* 33: 3371-3388.e7.

## 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](http://www.scbt.com) for detailed protocols and support products.

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