

# Odf2 (G-8): sc-365874

## 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. 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. and van der Hoorn, F.A. 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: 1343-13450.
3. 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: ODF2 (human) mapping to 9q34.11; Odf2 (mouse) mapping to 2 B.

## SOURCE

Odf2 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-27 at the N-terminus of Odf2 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.

Odf2 (G-8) is available conjugated to agarose (sc-365874 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365874 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365874 PE), fluorescein (sc-365874 FITC), Alexa Fluor® 488 (sc-365874 AF488), Alexa Fluor® 546 (sc-365874 AF546), Alexa Fluor® 594 (sc-365874 AF594) or Alexa Fluor® 647 (sc-365874 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365874 AF680) or Alexa Fluor® 790 (sc-365874 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365874 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

Odf2 (G-8) 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), immunohistochemistry (including paraffin-embedded sections) (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-8) is also recommended for detection of Odf2 in additional species, including canine and porcine.

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.

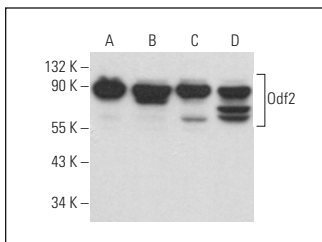
Molecular Weight of Odf2: 84 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

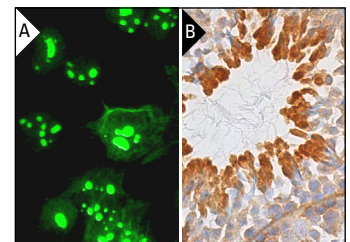
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Odf2 (G-8): sc-365874. Western blot analysis of Odf2 expression in NTERA-2 cl.D1 (A), OVCA-3 (B), Jurkat (C) and NIH/3T3 (D) whole cell lysates.



Odf2 (G-8): sc-365874. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear and cytoskeleton localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis tissue showing cytoplasmic and nuclear staining of subset of cells in seminiferous ducts (B).

## RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA