SANTA CRUZ BIOTECHNOLOGY, INC.

Nanos2 (A-8): sc-393868

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nanos2, also known as NOS2, is a 138 amino acid protein that contains one Nanos-type zinc finger. The Nanos-type zinc finger is comprised of two C2HC motifs, each of which are capable of binding one molecule of zinc and each of which work in tandem to play essential roles in translational regulation events. Expressed specifically in male germ cells, Nanos2 is essential for spermatogonia formation and is required to support the self-renewal, proliferation and overall development of proximal germ cells. Additionally, Nanos2 is thought to regulate the translation of target mRNAs, possibly by associating with the 3'-UTR of select transcripts. The gene encoding human Nanos2 maps to chromosome 19, which is the genetic home for a number of immunoglobulin superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608228. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Jaruzelska, J., et al. 2003. Conservation of a Pumilio-Nanos complex from *Drosophila* germ plasm to human germ cells. Dev. Genes Evol. 213: 120-126.
3. Tsuda, M., et al. 2003. Conserved role of Nanos proteins in germ cell development. Science 301: 1239-1241.
4. D'Agostino, I., et al. 2006. Translational repression restricts expression of the *C. elegans* Nanos homolog NOS-2 to the embryonic germline. Dev. Biol. 292: 244-252.
5. Tsuda, M., et al. 2006. Implication of Nanos2-3'UTR in the expression and function of Nanos2. Mech. Dev. 123: 440-449.
6. Suzuki, A., et al. 2007. Functional redundancy among Nanos proteins and a distinct role of Nanos2 during male germ cell development. Development 134: 77-83.
7. Saga, Y. 2008. Sexual development of mouse germ cells: Nanos2 promotes the male germ cell fate by suppressing the female pathway. Dev. Growth Differ. 50: S141-S147.

CHROMOSOMAL LOCATION

Genetic locus: NANOS2 (human) mapping to 19q13.32.

SOURCE

Nanos2 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 38-67 within an internal region of Nanos2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393868 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Nanos2 (A-8) is recommended for detection of Nanos2 of 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).

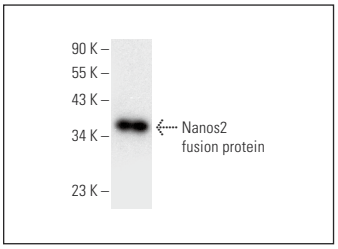
Suitable for use as control antibody for Nanos2 siRNA (h): sc-75866, Nanos2 shRNA Plasmid (h): sc-75866-SH and Nanos2 shRNA (h) Lentiviral Particles: sc-75866-V.

Molecular Weight of Nanos2: 18 kDa.

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.

DATA



Nanos2 (A-8): sc-393868. Western blot analysis of human recombinant Nanos2 fusion protein.

SELECT PRODUCT CITATIONS

1. Nabulindo, N.W., et al. 2022. Culture of Kenyan Goat *(Capra hircus)* undifferentiated spermatogonia in feeder-free conditions. Front. Vet. Sci. 9: 894075.

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 for detailed protocols and support products.