SANTA CRUZ BIOTECHNOLOGY, INC.

Nanog (M-17): sc-30329

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nanog (from "Tir Na Nog", the mythologic Celtic land of the ever young) is a divergent homeodomain protein that directs pluripotency and differentiation of undifferentiated embryonic stem cells. Nanog mRNA is present in pluripotent mouse and human cell lines, and absent from differentiated cells. Human Nanog protein shares 52% overall amino acid identity with the mouse protein and 85% identity in the homeodomain. Human Nanog maps to gene locus 12p13.31, whereas mouse Nanog maps to gene locus 6 F2. Murine embryonic Nanog expression is detected in the inner cell mass of the blastocyst. High levels of human Nanog expression were detected by Northern analysis in the undifferentiated NTERA-2 cl.D1 embryonal carcinoma cell line.

REFERENCES

1. Chambers, I., et al. 2003. Functional expression cloning of Nanog, a pluripotency sustaining factor in embryonic stem cells. Cell 113: 643-655.
2. Pan, G.J., et al. 2003. Identification of two distinct transactivation domains in the pluripotency sustaining factor nanog. Cell Res. 13: 499-502.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607937. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Hart, A.H., et al. 2004. Identification, cloning and expression analysis of the pluripotency promoting Nanog genes in mouse and human. Dev. Dyn. 230: 187-198.
5. Clark, A.T., et al. 2004. Human STELLAR, NANOG, and GDF3 genes are expressed in pluripotent cells and map to chromosome 12p13, a hotspot for teratocarcinoma. Stem Cells 22: 169-179.
6. Booth, H.A., et al. 2004. Eleven daughters of NANOG. Genomics 84: 229-238.

CHROMOSOMAL LOCATION

Genetic locus: NANOG (human) mapping to 12p13.31; Nanog (mouse) mapping to 6 F2.

SOURCE

Nanog (M-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Nanog of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-30329 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Nanog (M-17) is recommended for detection of Nanog of mouse and human origin by Western Blotting (starting dilution 1:200, 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 Nanog siRNA (h): sc-43958, Nanog siRNA (m): sc-44833, Nanog shRNA Plasmid (h): sc-43958-SH, Nanog shRNA Plasmid (m): sc-44833-SH, Nanog shRNA (h) Lentiviral Particles: sc-43958-V and Nanog shRNA (m) Lentiviral Particles: sc-44833-V.

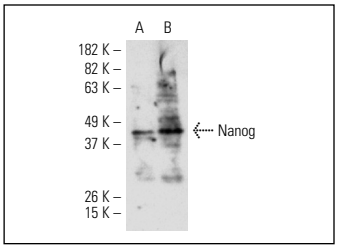
Molecular Weight of Nanog: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human embryonic stem cell lysate or mouse embryonic stem cell lysate.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Nanog (M-17): sc-30329. Western blot analysis of Nanog expression in human (**A**) and mouse (**B**) embryonic stem cell lysates. Kindly provided by Dr. Nobuaki Kikyo, Stem Cell Institute, University of Minnesota.

SELECT PRODUCT CITATIONS

1. Torres-Padilla, M.E., et al. 2007. Histone arginine methylation regulates pluripotency in the early mouse embryo. Nature 445: 214-218.
2. Liu, T., et al. 2012. Establishment of mouse teratocarcinomas stem cells line and screening genes responsible for malignancy. PLoS ONE 7: e43955.
3. Putkhao, K., et al. 2013. Pathogenic cellular phenotypes are germline transmissible in a transgenic primate model of Huntington's disease. Stem Cells Dev. 22: 1198-1205.