SANTA CRUZ BIOTECHNOLOGY, INC.

Nanog (W-18): sc-30328

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 loci 6 F2. Murine embryonic Nanog expression is detected in the inner cell mass of the blastocyst. High levels of human Nanog expression have been 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.

CHROMOSOMAL LOCATION

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

SOURCE

Nanog (W-18) 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.

Available as agarose conjugate for immunoprecipitation, sc-30328 AC, 500 µg/0.25 ml agarose in 1 ml.

Blocking peptide available for competition studies, sc-30328 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nanog (W-18) 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.

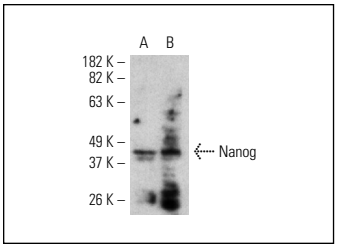
Molecular Weight of Nanog: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120 or mouse embryonic stem cell lysate.

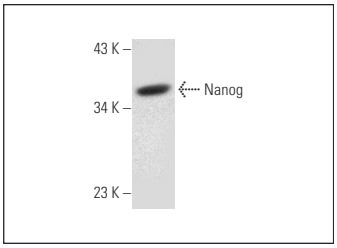
RECOMMENDED SECONDARY REAGENTS

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 (W-18): sc-30328. 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.



Nanog (W-18): sc-30328. Western blot analysis of Nanog expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Navarro-Quiroga, I., et al. 2006. Postnatal cellular contributions of the hippocampus subventricular zone to the dentate gyrus, corpus callosum, fimbria, and cerebral cortex. J. Comp. Neurol. 497: 833-845.
2. Ramakrishna, S., et al. 2011. PEST motif sequence regulating human NANOG for proteasomal degradation. Stem Cells Dev. 20: 1511-1519.
3. Jung, J.E., et al. 2011. Sprouty1 regulates neural and endothelial differentiation of mouse embryonic stem cells. Stem Cells Dev. 21: 554-561.
4. Eggenschwiler, R., et al. 2011. Hepatic differentiation of murine disease-specific induced pluripotent stem cells allows disease modelling *in vitro*. Stem Cells Int. 2011: 924782.
5. Ahn, H.J., et al. 2012. Ell3 enhances differentiation of mouse embryonic stem cells by regulating epithelial-mesenchymal transition and apoptosis. PLoS ONE 7: e40293.
6. Hadadeh, O., et al. 2012. The plasminogen activation system modulates differently adipogenesis and myogenesis of embryonic stem cells. PLoS ONE 7: e49065.

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.