SANTA CRUZ BIOTECHNOLOGY, INC.

Nanog (J-29): sc-81961

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 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.
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/

CHROMOSOMAL LOCATION

Genetic locus: NANOG (human) mapping to 12p13.31.

SOURCE

Nanog (J-29) is a mouse monoclonal antibody raised against recombinant Nanog of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Nanog (J-29) is recommended for detection of Nanog of 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)] 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 shRNA Plasmid (h): sc-43958-SH and Nanog shRNA (h) Lentiviral Particles: sc-43958-V.

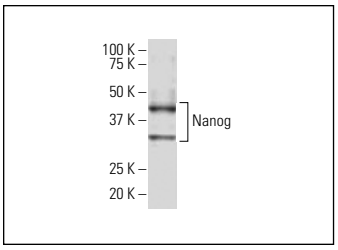
Molecular Weight of Nanog: 40 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

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).

DATA



Nanog (J-29): sc-81961. Western blot analysis of Nanog expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Zhou, S., et al. 2010. Isolation and identification of cancer stem cells from human osteosarcom by serum-free three-dimensional culture combined with anticancer drugs. J. Huazhong Univ. Sci. Technol. Med. Sci. 30: 81-84.
2. Chen, S.F., et al. 2012. Nonadhesive culture system as a model of rapid sphere formation with cancer stem cell properties. PLoS ONE 7: e31864.
3. Chen, S.F., et al. 2012. Quercetin suppresses drug-resistant spheres via the p38 MAPK-Hsp27 apoptotic pathway in oral cancer cells. PLoS ONE 7: e49275.
4. Arsic, N., et al. 2015. The p53 isoform Δ133p53β promotes cancer stem cell potential. Stem Cell Reports 4: 531-540.
5. Liu, C.L., et al. 2016. The molecular and clinical verification of therapeutic resistance via the p38 MAPK-Hsp27 axis in lung cancer. Oncotarget 7: 14279-14290.
6. Lee, T.Y., et al. 2016. Increased chemoresistance via Snail-Raf kinase inhibitor protein signaling in colorectal cancer in response to a nicotine derivative. Oncotarget 7: 23512-23520.
7. Lin, T.C., et al. 2019. Nanomedicine-based curcumin approach improved ROS damage in best dystrophy-specific induced pluripotent stem cells. Cell Transplant. 28: 1345-1357.

RESEARCH USE

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

CONJUGATES

See **Nanog (1E6C4): sc-293121** for Nanog antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.