

# Nanog (5A10): sc-134218

## 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

- Chambers, I., et al. 2003. Functional expression cloning of Nanog, a pluripotency sustaining factor in embryonic stem cells. *Cell* 113: 643-655.
- Pan, G.J., et al. 2003. Identification of two distinct transactivation domains in the pluripotency sustaining factor nanog. *Cell Res.* 13: 499-502.
- 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; Nanog (mouse) mapping to 6 F2.

## SOURCE

Nanog (5A10) is a mouse monoclonal antibody raised against amino acids 1-154 corresponding to recombinant Nanog of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>2a</sub> kappa light chain in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

## APPLICATIONS

Nanog (5A10) is recommended for detection of Nanog of mouse, rat 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)] 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: Raji whole cell lysate: sc-364236, HeLa whole cell lysate: sc-2200 or Nanog (h): 293 Lysate: sc-171225.

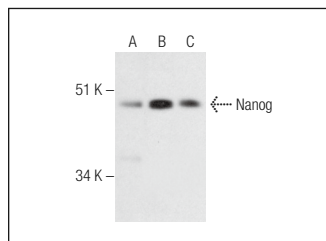
## RESEARCH USE

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

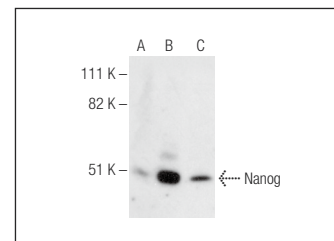
## STORAGE

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

## DATA



Nanog (5A10): sc-134218. Western blot analysis of Nanog expression in HeLa (A) and Raji (B) whole cell lysates and human ovary tissue extract (C).



Nanog (5A10): sc-134218. Western blot analysis of Nanog expression in non-transfected 293: sc-110760 (A), human Nanog transfected 293: sc-171225 (B) and HeLa (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Tarafdar, A., et al. 2013. Canonical Wnt signaling promotes early hematopoietic progenitor formation and erythroid specification during embryonic stem cell differentiation. *PLoS ONE* 8: e81030.
- Chu, G.C., et al. 2014. RANK- and c-Met-mediated signal network promotes prostate cancer metastatic colonization. *Endocr. Relat. Cancer* 21: 311-326.
- Zandi, M., et al. 2015. Activation and inhibition of the Wnt3A signaling pathway in Buffalo (*Bubalus bubalis*) embryonic stem cells: effects of WNT3A, Bio and Dkk1. *Int. J. Fertil. Steril.* 9: 361-370.
- Organista-Nava, J., et al. 2016. The HPV16 E7 oncoprotein increases the expression of Oct3/4 and stemness-related genes and augments cell self-renewal. *Virology* 499: 230-242.
- Yan, Y., et al. 2017. Loss of polycomb group protein Pcgf1 severely compromises proper differentiation of embryonic stem cells. *Sci. Rep.* 7: 46276.
- Zhong, M., et al. 2018. Restoration of stemness-high tumor cell-mediated suppression of murine dendritic cell activity and inhibition of tumor growth by low molecular weight oyster polysaccharide. *Int. Immunopharmacol.* 65: 221-232.
- Sharif, T., et al. 2019. HDAC6 differentially regulates autophagy in stem-like versus differentiated cancer cells. *Autophagy* 15: 686-706.
- Zhang, Q., et al. 2021. P4HA1 regulates human colorectal cancer cells through HIF1α-mediated Wnt signaling. *Oncol. Lett.* 21: 145.
- Kim, Y.J., et al. 2021. Role of RGMc as a neogenin ligand in follicular development in the ovary. *Biomedicines* 9: 280.



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