

Nanog (h): 293 Lysate: sc-171225

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/>.
- 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.
- 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.
- Booth, H.A., et al. 2004. Eleven daughters of NANOG. *Genomics* 84: 229-238.
- Deb-Rinker, P., et al. 2005. Sequential DNA methylation of the Nanog and Oct-4 upstream regions in human NT2 cells during neuronal differentiation. *J. Biol. Chem.* 280: 6257-6260.
- Hoei-Hansen, C.E., et al. 2005. Stem cell pluripotency factor Nanog is expressed in human fetal gonocytes, testicular carcinoma *in situ* and germ cell tumours. *Histopathology* 47: 48-56.

CHROMOSOMAL LOCATION

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

PRODUCT

Nanog (h): 293 Lysate represents a lysate of human Nanog transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

Nanog (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive Nanog antibodies. Recommended use: 10-20 µl per lane.

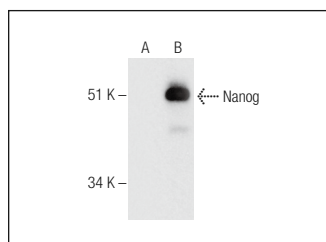
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

Nanog (1E6C4): sc-293121 is recommended as a positive control antibody for Western Blot analysis of enhanced human Nanog expression in Nanog transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

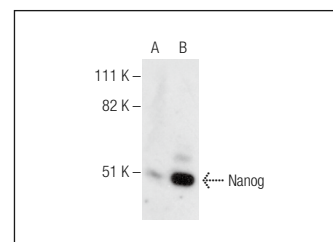
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Nanog (1E6C4): sc-293121. Western blot analysis of Nanog expression in non-transfected: sc-110760 (A) and human Nanog transfected: sc-171225 (B) 293 whole cell lysates.



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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.