

Nanog (F-8): sc-514536

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

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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.
7. 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.
8. 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 (mouse) mapping to 6 F2.

SOURCE

Nanog (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 233-256 near the C-terminus of Nanog of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514536 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Nanog (F-8) is recommended for detection of Nanog of mouse origin by Western Blotting (starting dilution 1:100, 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 (m): sc-44833, Nanog shRNA Plasmid (m): sc-44833-SH and Nanog shRNA (m) Lentiviral Particles: sc-44833-V.

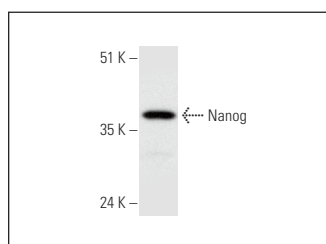
Molecular Weight of Nanog: 40 kDa.

Positive Controls: mouse testis extract: sc-2405.

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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Nanog (F-8): sc-514536. Western blot analysis of Nanog expression in mouse testis tissue extract.

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.



See **Nanog (C-4): sc-376915** for Nanog antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.