10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NANOG Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1238a

Product Information

Application	WB, ICC, E
Primary Accession	Q9H9S0
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1E6C4
Isotype	IgG1
Calculated MW	34620
Description	NANOG: Nanog homeobox. Entrez Protein NP_079141. Nanog 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 were detected by Northern analysis in the undifferentiated N-Tera embryonal carcinoma cell line.
Immunogen	Purified recombinant fragment of NANOG (aa20-166) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	79923
Other Names	Homeobox protein NANOG, Homeobox transcription factor Nanog, hNanog, NANOG
Dilution	WB~~1/500 - 1/2000 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	NANOG Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NANOG
Function	Transcription regulator involved in inner cell mass and embryonic stem (ES) cells proliferation and self-renewal. Imposes pluripotency on ES cells and prevents their differentiation towards extraembryonic endoderm and trophectoderm lineages. Blocks bone morphogenetic protein-induced mesoderm differentiation of ES cells by physically interacting with SMAD1 and interfering with the recruitment of coactivators to the active SMAD transcriptional complexes. Acts as a transcriptional activator or repressor. Binds optimally to the DNA consensus sequence 5'-TAAT[GT][GT]-3' or 5'-[CG][GA][CG]C[GC]ATTAN[GC]- 3'. Binds to the POU5F1/OCT4 promoter (PubMed:25825768). Able to autorepress its expression in differentiating (ES) cells: binds to its own promoter following interaction with ZNF281/ZFP281, leading to recruitment of the NuRD complex and subsequent repression of expression. When overexpressed, promotes cells to enter into S phase and proliferation.
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00108, ECO:0000269|PubMed:15983365}
Tissue Location	Expressed in testicular carcinoma and derived germ cell tumors (at protein level). Expressed in fetal gonads, ovary and testis. Also expressed in ovary teratocarcinoma cell line and testicular embryonic carcinoma. Not expressed in many somatic organs and oocytes.

References

1. Genes Cells. 2006 Sep;11(9):1115-23. 2. Mol Biol Cell. 2007 May;18(5):1543-53.

Images

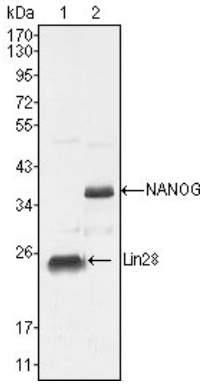


Figure 1: Western blot analysis using NANOG mouse mAb against NTERA-2 cell lysate (2).

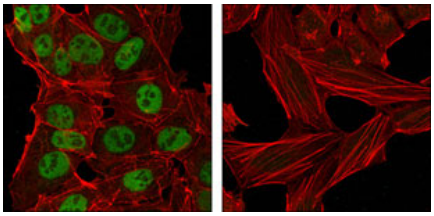
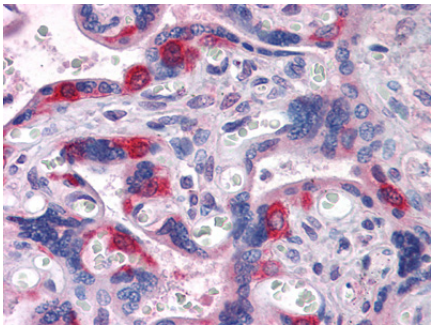


Figure 2: Confocal immunofluorescence analysis of NTERA-2 cells (left) and HeLa cells (right) using Nanog mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin.

Figure 2: Immunohistochemical analysis of paraffin-embedded human Placenta tissues using PEG10 mouse mAb



Citations

- Novel population of small tumour-initiating stem cells in the ovaries of women with borderline ovarian cancer.
- Isolation, characterization and differentiation of cells expressing pluripotent/multipotent markers from adult human ovaries.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.