10320 Camino Santa Fe, Suite G
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NANOG Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1238a

Specification

NANOG Antibody - Product Information

Application	**WB, ICC, E**
Primary Accession	Q9H9S0
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**35kDa KDa**

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.

NANOG Antibody - 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.

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NANOG Antibody - 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.

NANOG Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NANOG Antibody - Images

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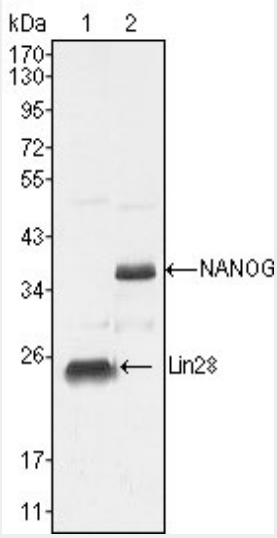

Figure 1: Western blot analysis using NANOG mouse mAb against NTERA-2 cell lysate (2).

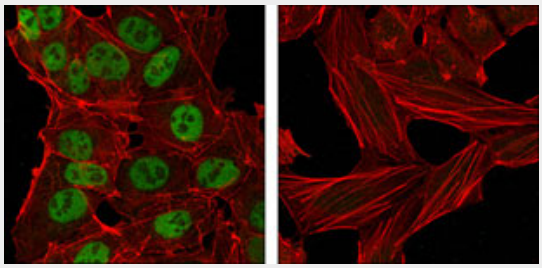

Figure 2: Confocal immunofluorescence analysis of NTERA-2 cells (left) and HeLa cells (right) using Nanog mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin.

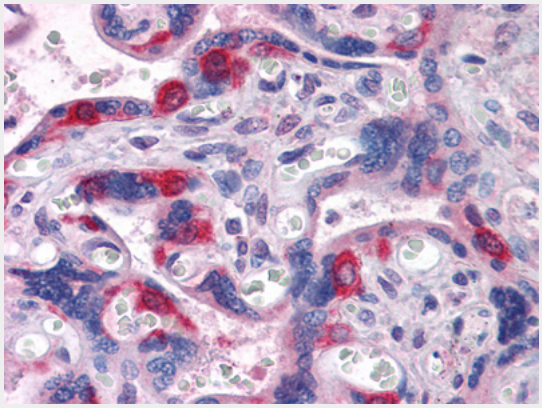

Figure 2: Immunohistochemical analysis of paraffin-embedded human Placenta tissues using PEG10 mouse mAb

NANOG Antibody - References

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

NANOG Antibody - 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.