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NANOG Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1486c

Product Information

Application	WB, E
Primary Accession	Q9H9S0
Other Accession	Q6NSW7, Q5TM84, Q4JM65, Q8N7R0
Reactivity	Human
Predicted	Monkey, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	34620
Antigen Region	94-123

Additional Information

Gene ID	79923
Other Names	Homeobox protein NANOG, Homeobox transcription factor Nanog, hNanog, NANOG
Target/Specificity	This NANOG antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 94-123 amino acids from the Central region of human NANOG.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	NANOG Antibody (Center) 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.

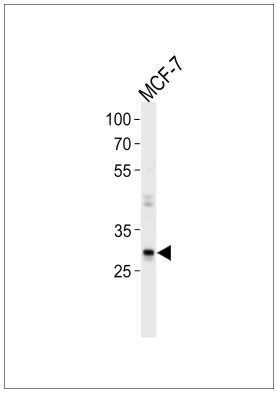
Background

NANOG is a Ttranscription regulator involved in inner cell mass and embryonic stem (ES) cels proliferation and self-renewal. It imposes pluripotency on ES cells and prevents their differentiation towards extraembryonic endoderm and trophectoderm lineages. This protein 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. NANOG acts as a transcriptional activator or repressor. It binds optimally to the DNA consensus sequence 5'-[CG][GA][CG]C[GC]ATTAN[GC]-3'. When overexpressed, this protein promotes cells to enter into S phase and proliferation.

References

Kochupurakkal,B.S., Biochem. Biophys. Res. Commun. 365 (4), 846-850 (2008)
Freberg,C.T., Mol. Biol. Cell 18 (5), 1543-1553 (2007)

Images



NANOG Antibody (Center) (Cat. #AP1486c) western blot analysis in MCF-7 cell line lysates (35ug/lane).This demonstrates the NANOG antibody detected the NANOG protein (arrow).

Citations

- Combinatorial interactions of genetic variants in human cardiomyopathy.
- AHNAK2 is a Novel Prognostic Marker and Oncogenic Protein for Clear Cell Renal Cell Carcinoma.

- Reprogramming mediated radio-resistance of 3D-grown cancer cells.