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NANOG Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1486A

Product Information

Application	WB, IF, IHC-P, FC, E
Primary Accession	Q9H9S0
Other Accession	Q6NSW7, Q5TM84
Reactivity	Human
Predicted	Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB13815
Calculated MW	34620
Antigen Region	15-49

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 15-49 amino acids from the N-terminal region of human NANOG.
Dilution	WB~~1:1000 IF~~1:10~50 IHC-P~~1:100~500 FC~~1:10~50 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 (N-term) 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.

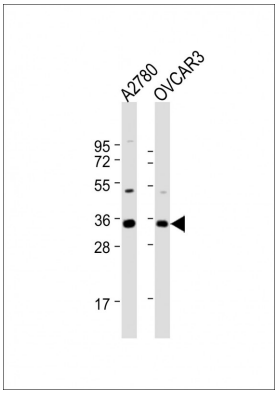
Background

NANOG is a transcription regulator involved in inner cell mass and embryonic stem (ES) cell 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

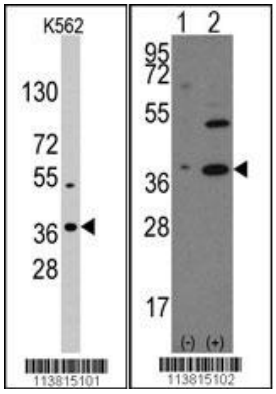
Kochupurakkal,B.S., Biochem. Biophys. Res. Commun. 365 (4), 846-850 (2008)
Freberg,C.T., Mol. Biol. Cell 18 (5), 1543-1553 (2007)

Images

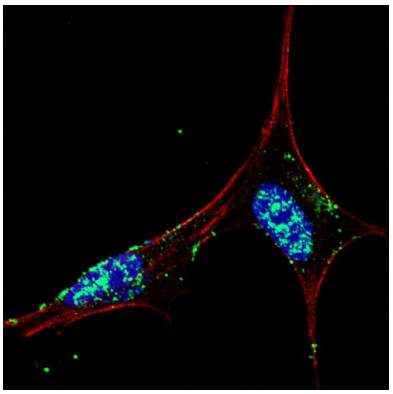


All lanes : Anti-NANOG Antibody (N-term) at 1:1000 dilution Lane 1: A2780 whole cell lysate Lane 2: OVCAR3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 35 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

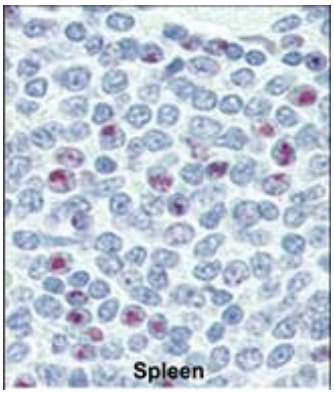
Western blot analysis of anti-NANOG Antibody (N-term) (Cat.#AP1486a) in K562 cell line lysates (35ug/lane). NANOG (arrow) was detected using the purified



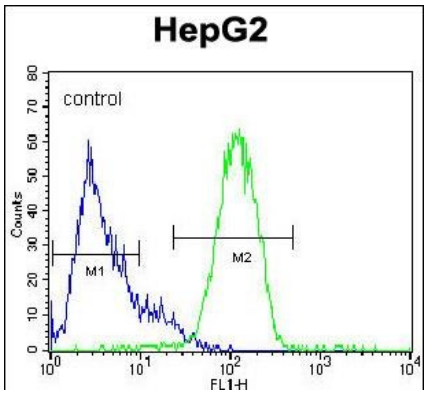
Pab.Western blot analysis of NANOG (arrow) using rabbit polyclonal NANOG Antibody (N-term) (Cat.#AP1486a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the NANOG gene (Lane 2) (Origene Technologies).



Fluorescent confocal image of SY5Y cells stained with AP1486a NANOG (N-term) antibody. SY5Y cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min), then incubated with AP1486a NANOG (N-term) primary antibody (1:500, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (5.25 µM, 25 min). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 3 min). Nanog immunoreactivity is localized mainly to the nuclei of the SY5Y cells.

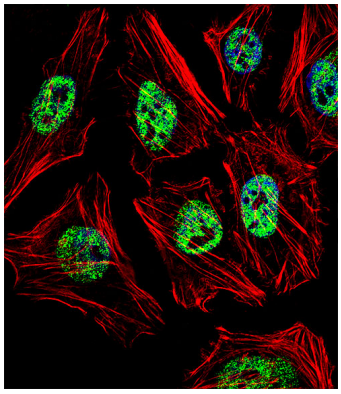


Formalin-fixed and paraffin-embedded human Spleen tissue reacted with NANOG Antibody (N-term)(Cat.#AP1486a), which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



NANOG Antibody (N-term) (Cat. #AP1486a) flow cytometric analysis of HepG2 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Fluorescent confocal image of Hela cell stained with NANOG Antibody (N-term)(Cat#AP1486a).Hela cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with NANOG primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at



37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). NANOG immunoreactivity is localized to Nucleus significantly.

Citations

- Biological characteristics of CD133(+) cells in nasopharyngeal carcinoma.

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