abcam

ab173368

Anti-Nanog antibody [23D2-3C6]

Key facts

Isotype	IgG
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human NANOG. Database link Q9H9S0
Clone number	23D2-3C6
Purification technique	Affinity purification Protein A
Specificity	ab173368 detects an ~38 kDa protein in embryonal carcinoma cells. Subcellular fractionation shows nuclear localization of Nanog. It shows specificity to Nanog and is non-reactive to lysates from non-embryonal cell types (e.g. HeLa cell lysate).
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/100

Notes	-

Predicted

Species	Chimpanzee, Cynomolgus monkey
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Predicted

Species	Chimpanzee, Cynomolgus monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Predicted

Species	Chimpanzee, Cynomolgus monkey
Dilution info	-
Notes	-

Target data

See full target information 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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Nanog also known as Nanog homeobox is a transcription factor playing an important role in maintaining the pluripotency of embryonic stem cells. The molecular weight of Nanog is approximately 35 kDa. It is found mainly in the inner cell mass of the blastocyst but it also expresses in embryonic stem cells and some adult stem cell populations. Nanog acts by binding to DNA in a sequence-specific manner to regulate gene expression essential for stem cell self-renewal and pluripotency.
Biological function summary	Nanog plays a central role in stem cell biology operating as part of a complex regulatory network. Nanog interacts with other important transcription factors like Oct4 and Sox2 forming a core pluripotency network. This network suppresses the

	differentiation of stem cells by regulating the expression of genes involved in cell fate decisions. By modulating the expression of different pathways Nanog ensures the maintenance of an undifferentiated state in stem cells.
Pathways	Nanog is deeply embedded in the Wnt/β-Catenin and TGF-β signaling pathways important for stem cell maintenance and differentiation. In the Wnt/β-Catenin pathway Nanog works alongside proteins like β-catenin to drive the expression of genes that promote self-renewal. Meanwhile in the TGF-β pathway Nanog acts with proteins such as Smad2/3 to balance pluripotency and differentiation signals. These pathways critically support the complex network that sustains stem cell identity and function.
Associated diseases and disorders	Nanog's expression relates closely to its role in various cancers such as glioblastoma and colorectal cancer. Abnormally high levels of Nanog contribute to the tumorigenicity of cancer cells by maintaining their self-renewal and undifferentiated state similar to its role in stem cells. Nanog interacts with proteins like p53 known for its tumor suppressor functions often leading to challenges in cancer treatment. Understanding Nanog's influence in these pathways provides valuable insights into therapeutic targets for combating cancer stem cell resilience.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

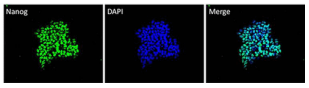
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

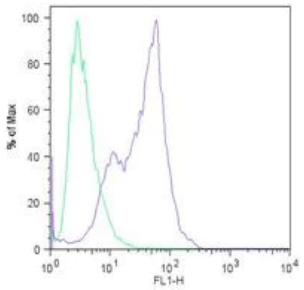
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [23D2-3C6] (ab173368)

Nanog Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Nanog antibody

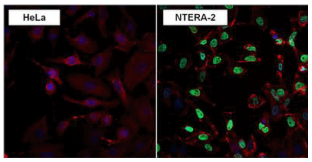
Immunofluorescent analysis of HEL 11.4 induced IPS cells grown for a few days on Matrigel-coated chamber slides (4% paraformaldehyde fixed and permeabilized with 0.1% Triton X-100) labeling Nanog with ab173368 at 1/200 dilution (green) followed by a fluorescein-conjugated secondary antibody at 1/100 dilution. Nuclei (blue) were stained with DAPI.



Flow Cytometry - Anti-Nanog antibody [23D2-3C6] (ab173368)

Nanog Flow Cytometry staining using mouse Anti-Nanog antibody

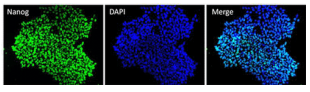
Flow cytometric analysis of H9 embryonic stem cells labeling Nanog with ab173368 at 1/100 (blue histogram) or mouse IgG (green histogram) followed by a fluorescein-conjugated secondary at 1/200 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [23D2-3C6] (ab173368)

Nanog Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Nanog antibody

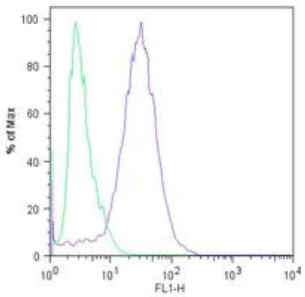
Immunofluorescent analysis of NTERA-2 and HeLa cells (formalin-fixed and permeabilized with 0.1% Triton X-100) labeling Nanog with ab173368 at 1/50 dilution (green) followed by DyLight 488-conjugated goat anti-mouse IgG secondary antibody. F-Actin (red) was stained with DyLight-554 Phalloidin and nuclei (blue) were stained with Hoechst 33342 dye.



Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [23D2-3C6] (ab173368)

Nanog Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Nanog antibody

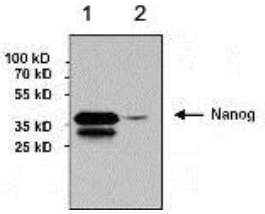
Immunofluorescent analysis of H9 embryonic stem cells grown for a few days on Matrigel-coated chamber slides (4% paraformaldehyde fixed and permeabilized with 0.1% Triton X-100) labeling Nanog with ab173368 at 1/200 dilution (green) followed by a fluorescein-conjugated secondary antibody at 1/100 dilution. Nuclei (blue) were stained with DAPI.



Flow Cytometry - Anti-Nanog antibody [23D2-3C6] (ab173368)

Nanog Flow Cytometry staining using mouse Anti-Nanog antibody

Flow cytometric analysis of HEL 11.4 induced IPS cells labeling Nanog with ab173368 at 1/00 dilution (blue histogram) or mouse IgG (green histogram) followed by a fluorescein-conjugated secondary antibody at 1/200 dilution.



Western blot - Anti-Nanog antibody [23D2-3C6] (ab173368)

4-20% Tris-HCl polyacrylamide gel.
All lanes:
Western blot - Anti-Nanog antibody [23D2-3C6] (ab173368) at 1/1000 dilution

Lane 1:
NCCIT nuclear fraction lysate at 60 µg

Lane 2:
NCCIT cytoplasmic fraction lysate at 60 µg

Secondary

All lanes:
goat anti-mouse IgG-HRP at 1/20000 dilution

Developed using the ECL technique.

Predicted band size: 34 kDa

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