abcam

ab317506

Anti-Nanog antibody [RM1168]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1168
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for mouse IHC-P and mouse FC-intra.
Concentration	0.499 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Species	Mouse
Dilution info	1/100
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat

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

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity

- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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.

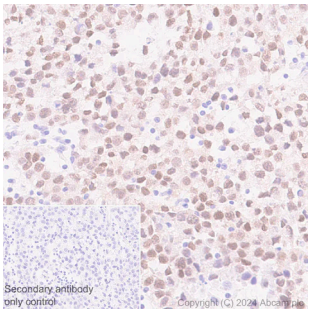
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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11 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [RM1168] (ab317506)

Immunohistochemical analysis of paraffin-embedded Human seminoma tissue labeling Nanog with ab317506 at 1/500 (0.998 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

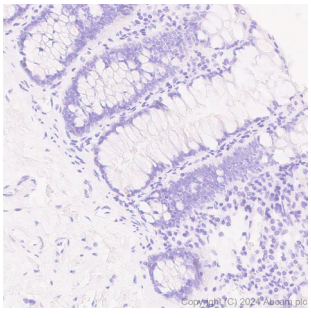
Positive staining on human seminoma. The section was incubated with ab317506 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [RM1168] (ab317506)

Nanog Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human colon using rabbit Anti-Nanog antibody

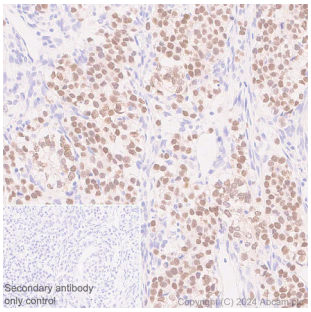
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Nanog with ab317506 at 1/500 (0.998 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human colon. The section was incubated with ab317506 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [RM1168] (ab317506)

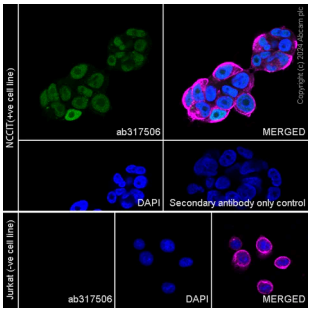
Immunohistochemical analysis of paraffin-embedded Human embryonal carcinoma tissue labeling Nanog with ab317506 at 1/500 (0.998 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human embryonal carcinoma. The section was incubated with ab317506 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



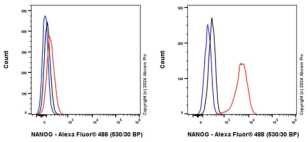
Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [RM1168] (ab317506)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NCCIT (human pluripotent embryonic carcinoma epithelial cell) cells labelling Nanog with ab317506 at 1/100 (4.99 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing mainly nuclear staining in NCCIT cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue).
Negative control: Jurkat (PMID: 12787505).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.

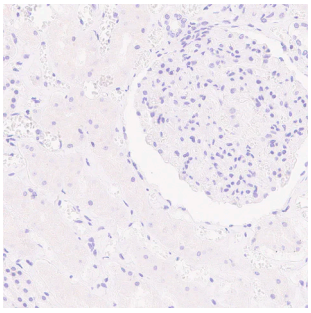


Flow Cytometry (Intracellular) - Anti-Nanog antibody [RM1168] (ab317506)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Jurkat (human T cell leukemia T lymphocyte from peripheral blood, Left) / NCCIT (human pluripotent embryonic carcinoma epithelial cell, Right) cells labelling Nanog with ab317506 at 1/500 dilution (0.1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: Jurkat.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [RM1168] (ab317506)

Nanog Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human kidney using rabbit Anti-Nanog antibody

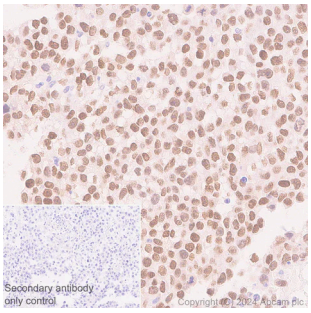
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling Nanog with ab317506 at 1/500 (0.998 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human kidney. The section was incubated with ab317506 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [RM1168] (ab317506)

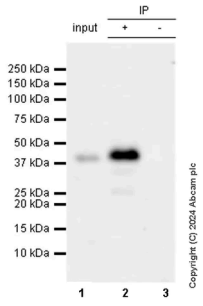
Immunohistochemical analysis of paraffin-embedded Human dysgerminoma tissue labeling Nanog with ab317506 at 1/500 (0.998 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human dysgerminoma. The section was incubated with ab317506 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-Nanog antibody [RM1168] (ab317506)

Nanog was immunoprecipitated from 0.35 mg NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate with ab317506 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab317506 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate
Lane 2: ab317506 IP in NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab317506 in NCCIT whole cell lysate

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-Nanog antibody [RM1168] (ab317506) at 1/30 dilution

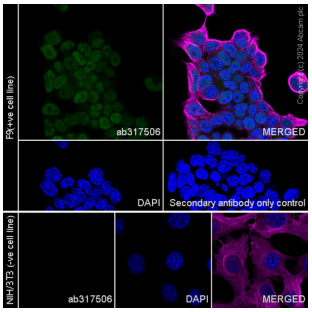
Lane 1:
NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate

Lane 2:
ab317506 IP in NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 32s



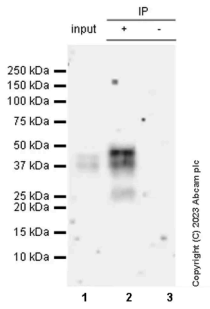
Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [RM1168] (ab317506)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling Nanog with ab317506 at 1/100 (4.99 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing mainly nuclear staining in F9 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue).
Negative control: NIH/3T3 (PMID: 12787505).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunoprecipitation - Anti-Nanog antibody [RM1168] (ab317506)

Nanog was immunoprecipitated from 0.35 mg F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate with ab317506 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab317506 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate
Lane 2: ab317506 IP in F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab317506 in F9 whole cell lysate

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-Nanog antibody [RM1168] (ab317506) at 1/30 dilution

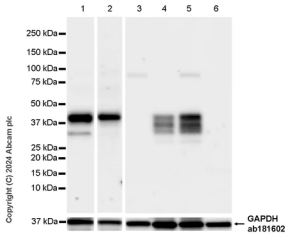
Lane 1:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate

Lane 2:
ab317506 IP in F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 180s



Western blot - Anti-Nanog antibody [RM1168] (ab317506)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: Jurkat, NIH/3T3 (PMID: 12787505)

Exposure time: Lane 1, 3, 4-6: 26 seconds Lane 2: 92 seconds

All lanes:
Western blot - Anti-Nanog antibody [RM1168] (ab317506) at 1/1000 dilution

Lane 1:
NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
NT2/D1 (human malignant pluripotent embryonic carcinoma epithelial-like cell) whole cell lysate at 20 µg

Lane 3:
Jurkat (human T cell leukemia T lymphocyte from peripheral blood) whole cell lysate at 20 µg

Lane 4:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
ES-D3 (mouse blastocyst-derived embryonic stem cell) whole cell lysate at 20 µg

Lane 6:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 29-42 kDa, 36 kDa

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