abcam

ab218524

Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR2027(2)
Purification technique	Affinity purification Protein A
Specificity	100% identities with NANOGP8
Concentration	1.005 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIP-seq

Tested

Species	Human

Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Antigen retrieval is recommended.

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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab218524 is the carrier-free version of ab109250.

Species reactivity

Mouse: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

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.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

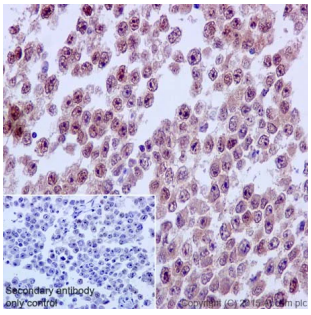
We do not recommend this combination. It is not covered by our product promise.

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.

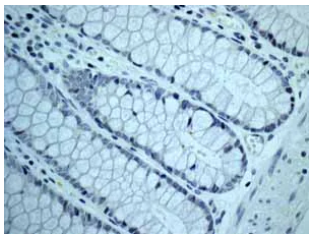
15 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human seminoma tissue labelling Nanog with purified ab109250 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a goat anti-rabbit IgG H&L (HRP) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).

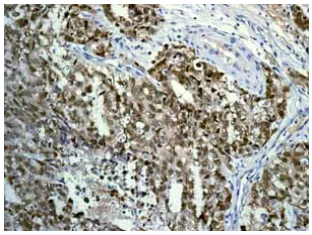


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human normal colon tissue shows negative staining of Nanog with unpurified ab109250.

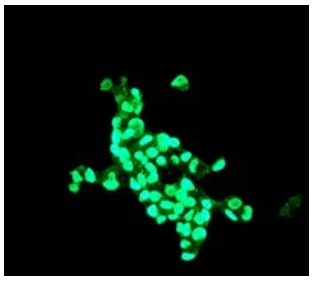
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

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

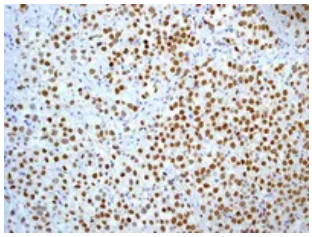
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human embryonal carcinoma tissue labelling Nanog with unpurified ab109250 at 1/100.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

Nanog Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nanog antibody

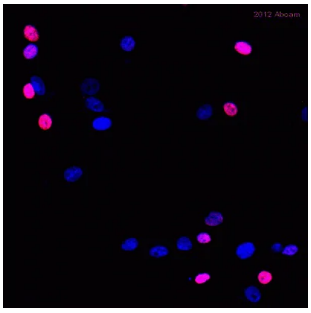
Immunocytochemistry/Immunofluorescence analysis of embryonic carcinoma cells labelling Nanog with unpurified ab109250 at 1/100.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human dysgerminoma tissue labelling Nanog with unpurified ab109250 at 1/100.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).

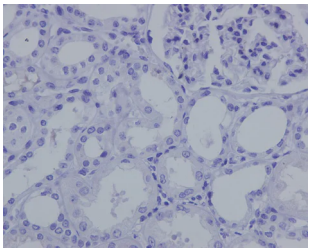


This image is courtesy of an anonymous customer review

Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

Nanog Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nanog antibody

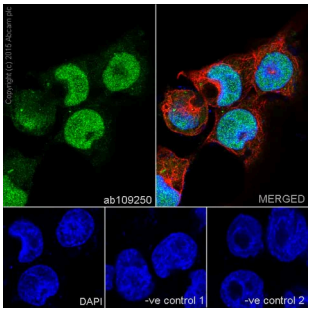
Immunocytochemistry/Immunofluorescence analysis of Human Liver cells labelling Nanog with unpurified ab109250. Cells were fixed with Paraformaldehyde, permeabilized with Triton X-100 0.1% and blocked with 1% BSA for 12 hours at 4°C. Sample was incubated with primary antibody (1/500 in PBS) for 16 hour at 4°C. An Alexa Fluor®647-conjugated Donkey anti-rabbit(1/1000) IgG polyclonal was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human adult kidney tissue shows negative staining of Nanog with unpurified ab109250.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



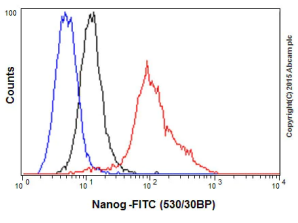
Immunocytochemistry/ Immunofluorescence - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

Nanog Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nanog antibody

Immunocytochemistry/Immunofluorescence analysis of NCCIT(human pluripotent embryonal carcinoma) cells labelling Nanog with purified ab109250 at 1/250. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291, a mouse anti-tubulin (1/1000) and ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were also used.
Control 1: primary antibody (1/100) and secondary antibody, ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).

Control 2: ab7291 (1/1000) and secondary antibody, ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).

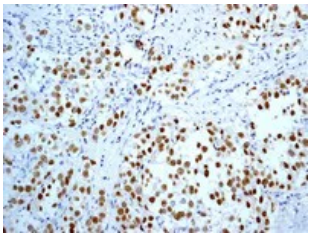


Flow Cytometry (Intracellular) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

Nanog Flow Cytometry (Intracellular) staining using rabbit Anti-Nanog antibody

Intracellular Flow Cytometry analysis of NCCIT cells labelling Nanog with purified ab109250 at 1/70 (red). Cells were fixed with 4% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG

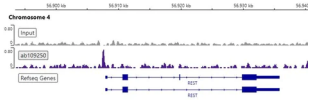
(1/500) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

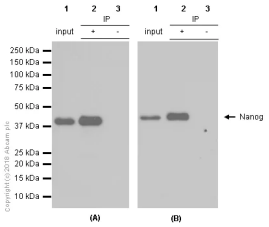
Nanog Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Nanog antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human seminoma tissue labelling Nanog with unpurified ab109250 at 1/100.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



ChIP-sequencing - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

Chromatin was prepared from NCCIT (Human pluripotent embryonic carcinoma cell line) cells. ChIP was performed with 10^7 NCCIT cells and 8 µg of ab109250 [[EPR2027(2)]. ChIP DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 30 million reads. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109250).



Immunoprecipitation - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

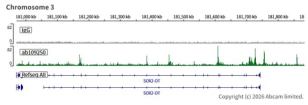
ab109250 (purified) at 1/40 dilution (1.5 µg/ml) immunoprecipitating Nanog in NCCIT whole cell lysate.
Lane 1 (input): NCCIT(Human pluripotent embryonic carcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab109250 & NCCIT whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab109250 in NCCIT whole cell lysate

For western blotting, ab109250 at 1/500 dilution (1.5 µg/ml) VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1/1000 dilution.

Blocking and diluting buffer: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-Nanog antibody [EPR2027(2)] (ab109250)

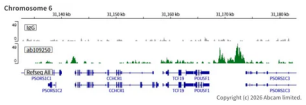
Predicted band size: 34 kDa



ChIC/CUT&RUN sequencing - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

This data was developed using ab109250, the same antibody clone in a different buffer formulation.

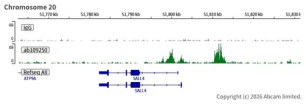
ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2.5 x 10^5 NCCIT (human pluripotent embryonic carcinoma epithelial cell) cells and 5 µg of ab109250 [EPR2027(2)]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control ab172730 is also shown. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.



ChIC/CUT&RUN sequencing - Anti-Nanog antibody [EPR2027(2)] - BSA and Azide free (ab218524)

This data was developed using ab109250, the same antibody clone in a different buffer formulation.

ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2.5 x 10^5 NCCIT (human pluripotent embryonic carcinoma epithelial cell) cells and 5 µg of ab109250 [EPR2027(2)]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control ab172730 is also shown. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.



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