abcam

ab282822

Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free

Recombinant | RabMAb

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	EPR24888-92
Purification technique	Affinity purification Protein A

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information Nop2

Function	S-adenosyl-L-methionine-dependent methyltransferase that specifically methylates the C(5) position of cytosine 4447 in 28S rRNA. Required for efficient rRNA processing and 60S ribosomal subunit biogenesis. Regulates pre-rRNA processing through non-catalytic complex formation with box C/D snoRNAs and facilitates the recruitment of U3 and U8 snoRNAs to pre-90S ribosomal particles and their stable assembly into snoRNP complexes. May play a role in the regulation of the cell cycle and the increased nucleolar activity that is associated with the cell proliferation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab282822 is the carrier-free version of ab271075.

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.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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	NOP2 also known as NOP2 nucleolar protein is a methyltransferase enzyme involved in ribosomal RNA (rRNA) processing. It weighs approximately 82 kDa. NOP2 is widely expressed in various cell types particularly in rapidly dividing cells where ribosome biogenesis is active. The protein resides predominantly in the nucleolus where it assists in rRNA modification and proper ribosome assembly.
Biological function summary	NOP2 plays an important role in the maturation of 28S rRNA during the biogenesis of the 60S ribosomal subunit. It functions as part of the larger ribosome assembly complex. By modifying rRNA NOP2 ensures correct rRNA folding and stabilization essential for the production of functional ribosomes. This enzymatic activity aligns with its critical role in the proliferation of cells impacting processes such as protein synthesis and cell growth.
Pathways	NOP2 is intimately involved in the ribosome biogenesis and assembly pathway. It interacts with other ribosomal proteins and ribosome assembly factors such as NOP58 during ribosome maturation. NOP2's role extends into the mitotic cell cycle pathway where it influences cellular proliferation. Understanding its connection with these pathways supports insights into cellular growth regulation and transformation.
Associated diseases and disorders	NOP2 associates strongly with cancer pathogenesis. Overexpression of NOP2 frequently occurs in various cancers suggesting a potential role in oncogenesis. Dysregulated ribosome biogenesis facilitated by NOP2 can lead to tumor progression and metastasis. The protein's interactions with oncoproteins such as

c-Myc further emphasize its importance in understanding cancer mechanisms and therapeutic targets.

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

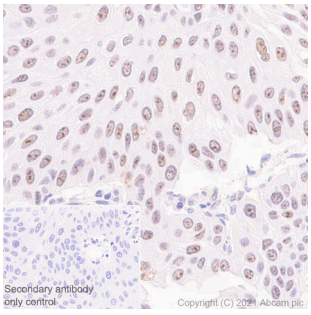
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images



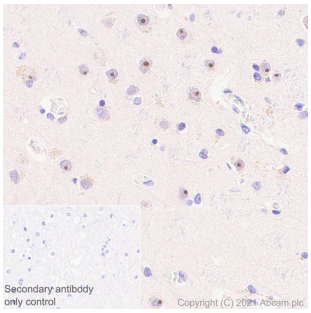
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded human lung adenocarcinoma tissue labelling NOP2 with ab271075 at 1/200 dilution (2.835 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nuclear staining on human lung adenocarcinoma (PMID: 3422591). The section was incubated with ab271075 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) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



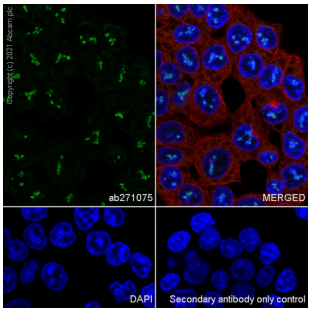
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NOP2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded human cerebrum tissue labelling NOP2 with ab271075 at 1/200 dilution (2.835 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nucleolar staining on human cerebrum (PMID: 25481415). The section was incubated with ab271075 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) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

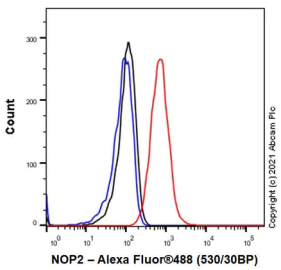


Immunocytochemistry/ Immunofluorescence - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized HCT 116 (human colorectal carcinoma cell line) cells labelling NOP2 with ab271075 at 1/500 dilution (1.134 µg/ml), followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 µg/ml / Green). Confocal image showing nucleolar staining in HCT 116 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 µg/ml / Red). 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 µg/ml) dilution.

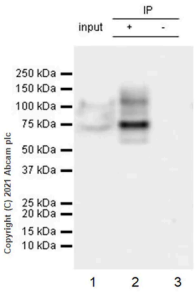


Flow Cytometry (Intracellular) - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Flow Cytometry (Intracellular) staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HCT 116 (human colorectal carcinoma epithelial cell) cells labelling NOP2 with ab271075 at 1/50 dilution (1µg / 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). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
NOP2 was immunoprecipitated from 0.35 mg 293T (human embryonic kidney epithelial cell) whole cell lysate with ab271075 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab271075 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: 293T (human embryonic kidney epithelial cell) whole cell lysate 10 µg

Lane 2: ab271075 IP in 293T whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab271075 in 293T whole cell lysate

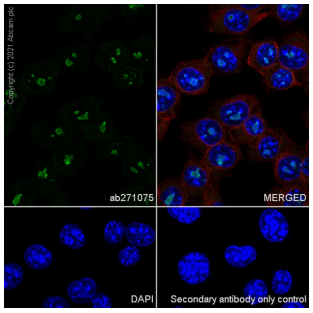
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 24 seconds

All lanes:
Immunoprecipitation - Anti-NOP2 antibody [EPR24888-92] (ab271075)

Predicted band size: 89 kDa

Observed band size: 110 kDa, 90 kDa

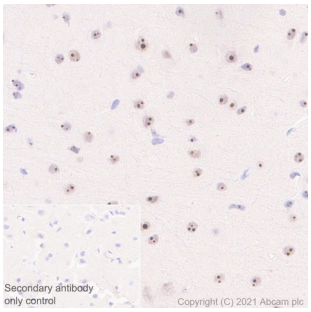


Immunocytochemistry/ Immunofluorescence - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized Neuro-2a (Mouse neuroblastoma cell line) cells labelling NOP2 with ab271075 at 1/500 dilution (1.134 µg/ml), followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 µg/ml / Green). Confocal image showing nucleolar staining in Neuro-2a cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 µg/ml / Red). 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 dilution (2 µg/ml).



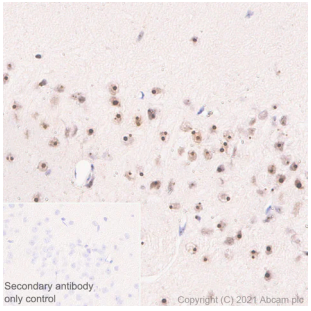
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labelling NOP2 with ab271075 at 1/500 dilution (1.134 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nucleolar staining on mouse cerebrum. The section was incubated with ab271075 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) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



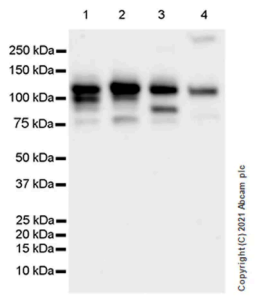
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded rat cerebrum tissue labelling NOP2 with ab271075 at 1/500 dilution (1.134 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nucleolar staining on rat cerebrum. The section was incubated with ab271075 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) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Western blot - Anti-NOP2 antibody [EPR24888-92] - BSA and Azide free (ab282822)

NOP2 Western blot staining using rabbit Anti-NOP2 antibody

This data was developed using ab271075, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Lysates were made freshly and used in WB test immediately to minimize protein degradation.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID:25043274).

The multiple reactive bands would represent different NOP2 isoforms.
All lanes:
Western blot - Anti-NOP2 antibody [EPR24888-92] (ab271075) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

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

Lane 4:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 89 kDa

Observed band size: 110 kDa, 90 kDa

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