abcam

ab300488

Anti-PCIF1 antibody [EPR24319-207] (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	EPR24319-207
Purification technique	Affinity purification Protein A
Concentration	1.013 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human, Mouse
Dilution info	-

Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information PCIF1

Function	Cap-specific adenosine methyltransferase that catalyzes formation of N(6),2'-O-dimethyladenosine cap (m6A(m)) by methylating the adenosine at the second transcribed position of capped mRNAs (PubMed:30467178, PubMed:30487554, PubMed:31279658, PubMed:31279659, PubMed:33428944). Recruited to the early elongation complex of RNA polymerase II (RNAPII) via interaction with POLR2A and mediates formation of m6A(m) co-transcriptionally (PubMed:30467178).

Storage

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

Notes

ab300488 is a carrier free version of ab300487.

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	PCIF1 also known as Phosphorylated CTD-interacting factor 1 is a protein with a mass of around 66 kDa. It functions mechanically as an enzyme that methylates the 2'-O position of RNA cap structures modulating mRNA stability and translation. You find PCIF1 expression predominantly in the nucleus of human cells where it interacts with the C-terminal domain of RNA polymerase II. Its role is essential in RNA processing impacting the regulation of gene expression at a post-transcriptional level.
Biological function summary	PCIF1 modifies RNA molecules influencing mRNA cap structure formation and methylation. This activity is a part of the cap-binding complex which ensures proper RNA maturation and function. By interacting with the cap structure it plays a non-ignorable role in the control of RNA export translation and degradation facilitating the precise regulation of genetic information flow within cells. Its presence in the methyltransferase complex highlights its importance in cell biology.
Pathways	PCIF1 plays a prominent role in the mRNA capping and processing pathways. It partners with proteins such as RNA polymerase II in the pathway to ensure successful transcription and subsequent RNA modifications. The involvement in the mRNA cap methylation pathway highlights its connection with transcription and subsequent mRNA fate marking it as an important regulator in post-transcriptional gene expression regulation.
Associated diseases and disorders	PCIF1 has been associated with conditions such as cancer and neurodegenerative diseases. Altered expression or function of PCIF1 can disrupt normal cellular processes leading to the progression of these disorders. Studies link PCIF1 changes to irregular mRNA methylation patterns which may relate to oncogenic transformation or neuronal dysfunction. Related proteins like RNA polymerase II also play important roles in understanding these disease mechanisms as they interact within the same pathways disrupted during disease states.

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

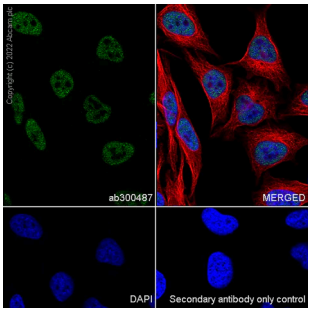
We do not recommend this combination. It is not covered by our product promise.

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.

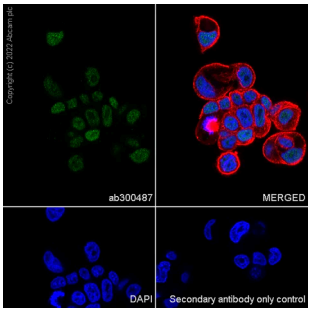
Full details and terms and conditions can be found here:
Terms & Conditions.

12 product images



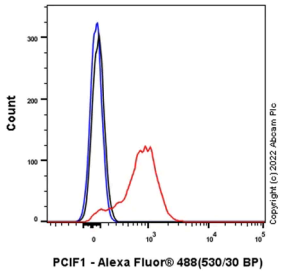
Immunocytochemistry/ Immunofluorescence - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation.Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling PCIF1 with ab300487 at 1/50 (9.4 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 nuclear staining in HeLa cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 ug/ml dilution (Red). 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.



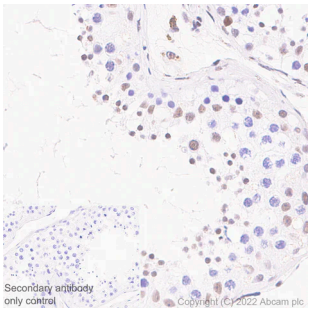
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This data was developed using ab300487, the same antibody clone in a different buffer formulation.Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized MCF7 (human breast adenocarcinoma epithelial cell) cells labelling PCIF1 with ab300487 at 1/50 (9.4 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 nuclear staining in MCF7 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 ug/ml dilution (Red). 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.



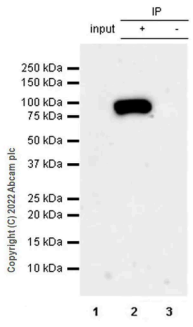
Flow Cytometry (Intracellular) - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation.Flow cytometric analysis of MCF7 (human breast adenocarcinoma epithelial cell) cells labelling PCIF1 with ab300487 at 1/500 dilution (0.1ug) (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 1/2000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation.Immunohistochemical analysis of paraffin-embedded Human testis tissue labeling PCIF1 with ab300487 at 1/200 (2.35 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Nuclear staining on human testis. The section was incubated with ab300487 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



Immunoprecipitation - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation.
PCIF1 was immunoprecipitated from 0.35 mg HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate 10 ug with ab300487 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab300487 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.

Lane 1: HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate 10 ug

Lane 2: ab300487 IP in HeLa whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab300487 in HeLa whole cell lysate

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

Exposure time: 84 seconds

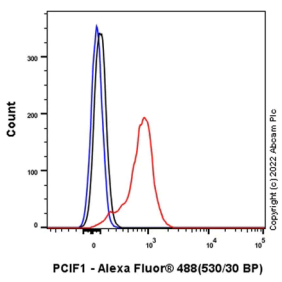
All lanes:
Immunoprecipitation - Anti-PCIF1 antibody [EPR24319-207] (ab300487) at 1/1000 dilution

All lanes:
HeLa whole cell lysate at 10 µg

Secondary

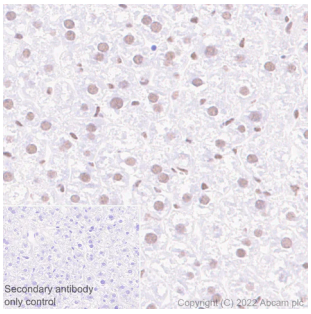
All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 84s



Flow Cytometry (Intracellular) - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

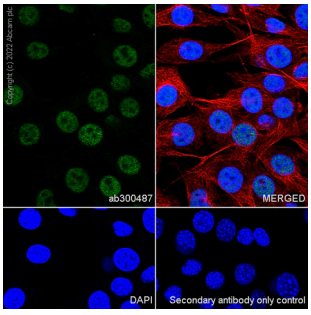
This data was developed using ab300487, the same antibody clone in a different buffer formulation.Flow cytometric analysis of NIH/3T3 (mouse embryonic fibroblast) cells labelling PCIF1 with ab300487 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

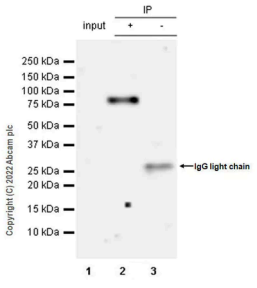
PCIF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rabbit Anti-PCIF1 antibody

This data was developed using ab300487, the same antibody clone in a different buffer formulation.Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling PCIF1 with ab300487 at 1/200 (2.35 ug/ml) followed by a ready to use LeicaDS9800 (Bond Polymer Refine Detection) was used. Nuclear staining on mouse liver. The section was incubated with ab300487 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-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

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Immunoprecipitation - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation.
PCIF1 was immunoprecipitated from 0.35 mg NIH/3T3 (mouse embryonic fibroblast), whole cell lysate 10 ug with ab300487 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab300487 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.

Lane 1: NIH/3T3 (mouse embryonic fibroblast), whole cell lysate 10 ug

Lane 2: ab300487 IP in NIH/3T3 whole cell lysate

Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab300487 in NIH/3T3 whole cell lysate

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

Exposure time: 3 minutes

This blot was developed using a high sensitivity ECL substrate.
Lanes 1 - 3:
Immunoprecipitation - Anti-PCIF1 antibody [EPR24319-207] (ab300487) at 1/1000 dilution

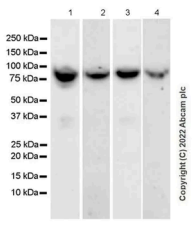
Lanes 1 - 3:
Immunoprecipitation - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

All lanes:
NIH/3T3 whole cell lysate at 10 µg

Secondary

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

Exposure time: 3min



Western blot - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation. Blocking Buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-PCIF1 antibody [EPR24319-207] (ab300487) at 1/1000 dilution

Lane 1:
Jurkat (human T cell leukemia T lymphocyte), whole cell lysate

Lane 2:
293T (human embryonic kidney epithelial cell), whole cell lysate

Lane 3:
MCF7 (human breast adenocarcinoma epithelial cell), whole cell lysate

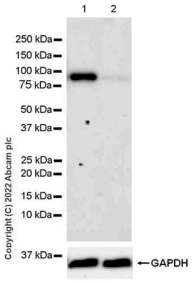
Lane 4:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate

Secondary

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

Performed under reducing conditions.

Observed band size: 85 kDa



Western blot - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation. Blocking Buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-PCIF1 antibody [EPR24319-207] (ab300487) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control, whole cell lysate

Lane 2:
HeLa transfected with siRNA specifically targeti PCIF1, whole cell lysate 40

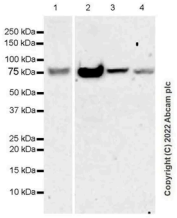
Secondary

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

Performed under reducing conditions.

Observed band size: 85 kDa

Exposure time: 3min



Western blot - Anti-PCIF1 antibody [EPR24319-207] (BSA and Azide free) (ab300488)

This data was developed using ab300487, the same antibody clone in a different buffer formulation. Blocking Buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-PCIF1 antibody [EPR24319-207] (ab300487) at 1/1000 dilution

Lane 1:
Human testis tissue lysate

Lane 2:
Mouse testis tissue lysate

Lane 3:
Mouse liver tissue lysate

Lane 4:
Mouse heart tissue lysate

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Performed under reducing conditions.

Observed band size: 85 kDa

Exposure time: 3min

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