abcam

ab87913

Anti-Coilin antibody [IH10]

Anti-Coilin antibody [IH10] (ab87913) is a mouse monoclonal antibody detecting Coilin in **Western Blot, Flow Cytometry (Intra), IP, IHC-P**. Suitable for **Human**.

- KO validated for confirmed specificity
- Over 30 publications

KO Validated

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	IH10
Purity	IgG fraction
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Human

Dilution info	1 µg/mL
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1-5 µg/mL
Notes	-

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Target data

See full target information COIL

Function	Component of nuclear coiled bodies, also known as Cajal bodies or CBs, which are involved in the modification and assembly of nucleoplasmic snRNPs.

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 is this antibody validated in?
Anti-Coilin antibody [IH10] (ab87913) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P) in Human samples.

What is the molecular weight of Coilin?
Anti-Coilin [IH10] (ab87913) specifically detects a band for Coilin (UniProt: P38432) at a molecular weight of 63kDa.

Trusted by the scientific community
Anti-Coilin [IH10] (ab87913) was first used in a scientific publication in 2011 and has been cited over 30 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-Coilin antibody [IH10] (ab87913) has been confirmed by Western blot testing in COIL Knockout HeLa cell line, ab261757.

Other related products
We have a range of other formats of antibody clone [IH10] also available for your convenience: ab87913, Alexa Fluor® 647 - ab196714, HRP - ab196715, Alexa Fluor® 488 - ab197531

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

Supplementary info

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

Activity summary	Coilin also known as Coilin protein or its gene name COIL is a nuclear phosphoprotein with a mass of approximately 62 kDa. It plays a mechanical role in the formation and maintenance of Cajal bodies which are subnuclear structures involved in various RNA processes. Coilin is mainly expressed in the nucleus of eukaryotic cells including a high expression in HeLa cells where its localization to Cajal bodies can be easily studied with tools like Alexa Fluor 488. Occasionally references may be made to terms like 'HeLa coil' which pertain to specific structural features noted in these contexts.
Biological function summary	This protein facilitates the organization and biogenesis of nuclear bodies associated with RNA processing and small nuclear ribonucleoproteins (snRNPs) assembly. Coilin operates as part of a larger complex involving several other proteins that interact within Cajal bodies. These nuclear bodies serve as sites where components necessary for RNA processing are concentrated. Coilin aids in the trafficking and modification of snRNP elements which are essential for pre-mRNA splicing.
Pathways	Coilin affects RNA metabolism and processing notably within the spliceosome assembly pathway and in snRNP biogenesis. The pathways include interactions with proteins such as SMN (Survival of Motor Neuron) protein which links to spinal muscular atrophy-related processes. Additionally Coilin contributes to the broader framework of nucleic acid processing systems impacting the outcome of RNA transcription and modification through its regulatory roles.
Associated diseases and disorders	Coilin shows connections to neurological conditions and cancer. For instance alterations or dysregulation in Coilin expression can correlate with spinal muscular atrophy where it associates with the SMN protein if there are disruptions in Cajal body integrity. Furthermore links exist with certain cancers where the mismanagement of RNA processes influenced by Coilin and its interaction partners like PDEdelta can lead to aberrant cell behaviors and tumor progression. Coilin's involvement in such diseases makes it an appealing target for therapeutic exploration reflected in ongoing cancer research and therapeutic developments.

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.

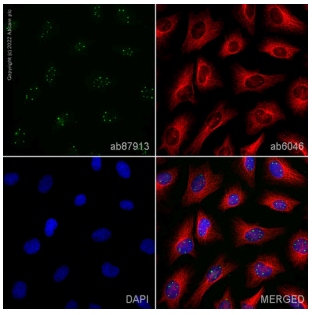
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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9 product images

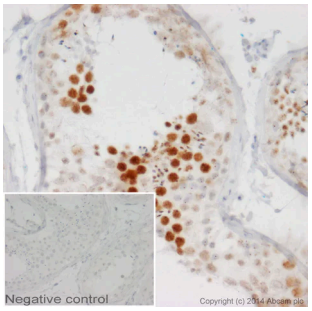


Immunocytochemistry - Anti-Coilin antibody [IH10] (ab87913)

Coilin Immunocytochemistry staining using mouse Anti-Coilin antibody

ab87913 staining Coilin in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab87913 at 1µg/ml and ab6046, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with ab150117, Goat polyclonal Secondary Antibody to Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and ab150080, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).
Also suitable in cells fixed with 4% paraformaldehyde (10 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



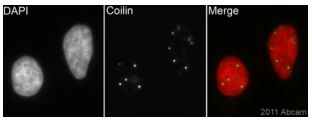
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Coilin antibody [IH10] (ab87913)

Coilin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Coilin antibody

IHC image of Coilin staining in human testis formalin fixed paraffin embedded tissue section*. The section was pre-treated using pressure cooker heat mediated antigen retrieval with sodium citrate buffer (pH6) for 30mins. The section was incubated with ab87913, 3µg/ml overnight at +4°C. An HRP-conjugated secondary (ab97250, 1/500 dilution) was used for 1hr at room temperature. The section was counterstained with haematoxylin and mounted with DPX.
The inset negative control image is taken from an identical assay without primary antibody.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre

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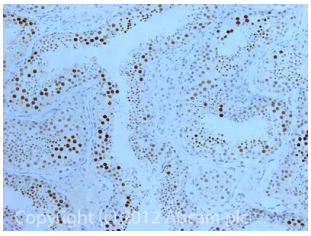


Immunocytochemistry - Anti-Coilin antibody [IH10] (ab87913)

Coilin Immunocytochemistry staining using mouse Anti-Coilin antibody

This image is part of a customer review submitted by Kirk McManus, Univ. of Manitoba/Cancer Care MICB, Canada

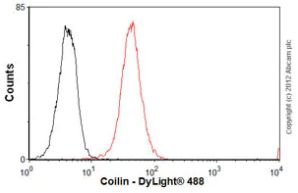
ab87913(1/2000) staining Coilin in assynchronous HeLa cells (green). Cells were fixed in methanol (this image) or paraformaldehyde (see abreview image), permeabilized with 0.5% Triton X100 and counterstained with DAPI in order to highlight the nucleus (red). For further experimental details please refer to Abreview.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Coilin antibody [IH10] (ab87913)

Coilin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Coilin antibody

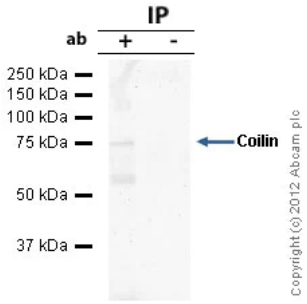
IHC image of Coilin staining in Human normal testis formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab87913, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Flow Cytometry (Intracellular) - Anti-Coilin antibody [IH10] (ab87913)

Coilin Flow Cytometry (Intracellular) staining using mouse Anti-Coilin antibody

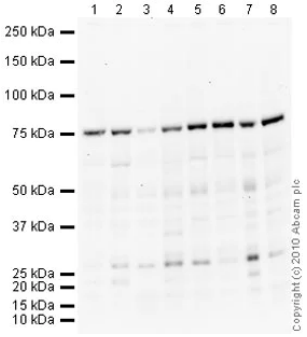
Overlay histogram showing HeLa cells stained with ab87913 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab87913, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Immunoprecipitation - Anti-Coilin antibody [IH10] (ab87913)

Coilin was immunoprecipitated using 0.5mg HepG2 whole cell extract, 5µg of Mouse monoclonal to Coilin and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, HepG2 whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70ºC; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab87913.
Secondary: Goat polyclonal to mouse IgG light chain specific (HRP) at 1/5000 dilution.
Band: 75kDa: Coilin
All lanes:
Immunoprecipitation - Anti-Coilin antibody [IH10] (ab87913)

Predicted band size: 62 kDa



Western blot - Anti-Coilin antibody [IH10] (ab87913)

Coilin Western blot staining using mouse Anti-Coilin antibody

All lanes:
Western blot - Anti-Coilin antibody [IH10] (ab87913) at 5 µg/mL

Lane 1:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

Lane 2:
HeLa (Human epithelial carcinoma cell line) Nuclear Lysate at 10 µg

Lane 3:
Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate at 10 µg

Lane 4:
HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate at 10 µg

Lane 5:
HEK293 (Human embryonic kidney cell line) Whole Cell Lysate at 10 µg

Lane 6:
MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate at 10 µg

Lane 7:
Caco 2 (Human colonic carcinoma cell line) Whole Cell Lysate at 10 µg

Lane 8:
SHSY-5Y (Human neuroblastoma cell line) Whole Cell Lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

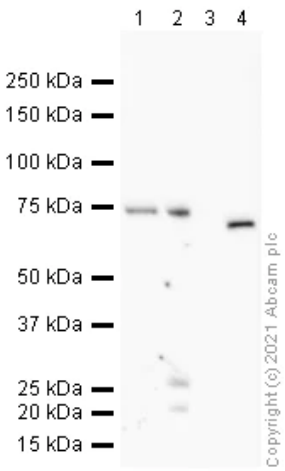
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 62 kDa

Observed band size: 28 kDa, 75 kDa

Exposure time: 20min



Western blot - Anti-Coilin antibody [IH10] (ab87913)

Coilin Western blot staining using mouse Anti-Coilin antibody

Blocking buffer: 3% Milk
Gel type: MOPS

The band observed in the CRISPR-Cas9 edited lysate lane below 75 kDa is likely to represent a truncated form of COIL. This has not been investigated further and the functional properties of the gene product have not been determined.

All lanes:
Western blot - Anti-Coilin antibody [IH10] (ab87913) at 1/500 dilution

Lane 1:
Jurkat whole cell at 20 µg

Lane 2:
Wild-type HeLa cell lysate at 20 µg

Lane 3:
Empty

Lane 4:
COIL knockout HeLa cell lysate at 20 µg

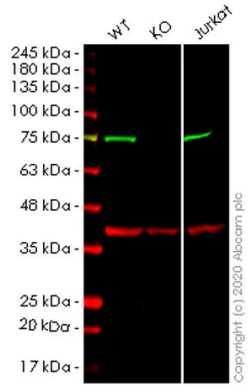
Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/5000 dilution

Predicted band size: 62 kDa

Observed band size: 75 kDa

Exposure time: 12min



Western blot - Anti-Coilin antibody [IH10] (ab87913)

Coilin Western blot staining using mouse Anti-Coilin antibody

Lanes 1-3: Merged signal (red and green). Green - ab87913 observed at 75 kDa. Red - loading control, ab181602 observed at 37 kDa.
ab87913 Anti-Coilin antibody [IH10] was shown to specifically react with Coilin in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab261757 (knockout cell lysate ab257251) was used. Wild-type and Coilin knockout samples were subjected to SDS-PAGE. ab87913 and Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) were incubated overnight at 4°C at 1 in 500 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) secondary antibodies at 1 in 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Coilin antibody [IH10] (ab87913) at 1/500 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
COIL knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human COIL (Coilin) knockout HeLa cell line (ab261757)

Lane 3:
Jurkat cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 62 kDa

Observed band size: 75 kDa

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