abcam

ab23644

Anti-hnRNP K antibody [F45 P9 C7]

Key facts

Isotype	IgG1
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	F45 P9 C7
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Rabbit, Chicken
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Human
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Rabbit, Chicken
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rabbit, Chicken
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval via the microwave method before commencing with IHC staining protocol.

Expected

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

Predicted

Species	Rabbit, Chicken
Dilution info	-

Notes	-

Target data

See full target information HNRNPK

Function	One of the major pre-mRNA-binding proteins. Binds tenaciously to poly(C) sequences. Likely to play a role in the nuclear metabolism of hnRNAs, particularly for pre-mRNAs that contain cytidine-rich sequences. Can also bind poly(C) single-stranded DNA. Plays an important role in p53/TP53 response to DNA damage, acting at the level of both transcription activation and repression. When sumoylated, acts as a transcriptional coactivator of p53/TP53, playing a role in p21/CDKN1A and 14-3-3 sigma/SFN induction (By similarity). As far as transcription repression is concerned, acts by interacting with long intergenic RNA p21 (lincRNA-p21), a non-coding RNA induced by p53/TP53. This interaction is necessary for the induction of apoptosis, but not cell cycle arrest. As part of a ribonucleoprotein complex composed at least of ZNF827, HNRNPL and the circular RNA circZNF827 that nucleates the complex on chromatin, may negatively regulate the transcription of genes involved in neuronal differentiation (PubMed:33174841).

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

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	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) is a multifunctional protein that plays a critical role in RNA metabolism including RNA splicing translation and transcription. Alternate names for hnRNP K include synkaryon-associated protein and hnRNP KurB. It has a molecular mass of approximately 51 kDa and is ubiquitously expressed in the nucleus and cytoplasm of eukaryotic cells. This protein features three KH (K homology) domains that enable it to interact with nucleic acids and other proteins.
Biological function summary	HnRNP K serves as a transcriptional regulator and participates in the assembly of ribonucleoprotein complexes. As part of the ribonucleoprotein complex it interacts with both RNA and DNA influencing various gene expression pathways. It also modulates the activity of several transcription factors including c-Myc and has been implicated in cell proliferation and differentiation. This protein's versatile functions make it an important component in various cellular processes.
Pathways	HnRNP K plays an important role in signal transduction and the p53 pathway. In the p53 pathway hnRNP K acts as a coactivator enhancing the transcriptional activity of the tumor suppressor p53 and influencing cell cycle regulation and apoptosis. Additionally hnRNP K interacts with several proteins including the c-Myc oncogene to regulate gene expression associated with growth and cell cycle progression.
Associated diseases and disorders	HnRNP K has been linked to cancer and neurological disorders. Its interaction with c-Myc makes it relevant in various cancers where c-Myc is dysregulated contributing to unchecked cell proliferation. Furthermore alterations in hnRNP K expression or function have been associated with neurodegenerative disorders where it might interact with proteins like TDP-43 or FUS affecting neuronal function and survival.

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

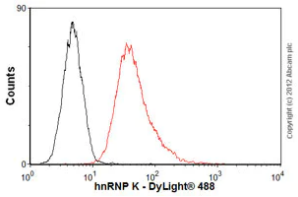
We do not recommend this combination. It is not covered by our product promise.

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.

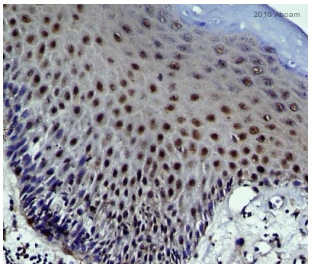
7 product images



Flow Cytometry (Intracellular) - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

HnRNP K Flow Cytometry (Intracellular) staining using mouse Anti-hnRNP K antibody

Overlay histogram showing HeLa cells stained with ab23644 (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 (ab23644, 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 IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

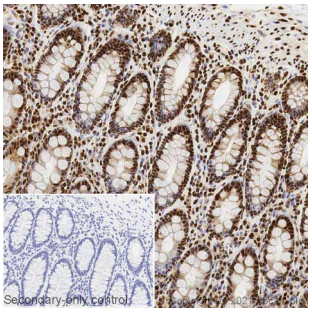


This image is courtesy of a customer review submitted by Satyendra Tripathi

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

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

ab23644 staining hnRNP K in Human head and neck tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 1% BSA for 1 hour at 25°C; antigen retrieval was by heat mediation with Tris EDTA (pH9). Samples were incubated with primary antibody (1 µg/ml in TBST) for 16 hours at 4°C. An undiluted HRP-conjugated Rabbit anti-mouse polyclonal was used as the secondary antibody.



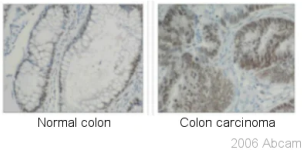
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

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

IHC image of hnRNP K staining in a section of formalin-fixed paraffin-embedded normal human colon* performed on a Leica BOND™ 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 20mins. The section was then incubated with ab23644, 1ug/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. The inset secondary-only 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

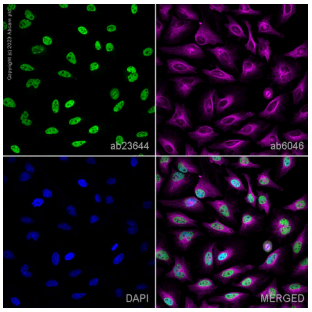
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

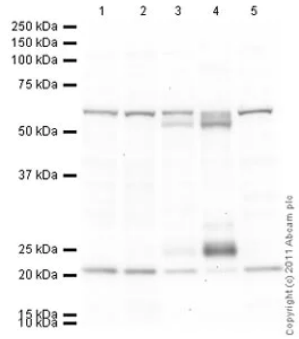
HnRNP K Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-hnRNP K antibody

Formalin-fixed, paraffin embedded tissue sections from human normal colon or human colon carcinoma stained with ab23644 mouse monoclonal to hnRNP K. hnRNP K expression is increased in the tumour tissue.



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

ab23644 staining hnRNP K in HeLa cells. The cells were fixed with 4% paraformaldehyde (10 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 ab23644 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 magenta). Nuclear DNA was labelled with DAPI (shown in blue). Also suitable in cells fixed with 100% methanol (5 min).Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Western blot - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

HnRNP K Western blot staining using mouse Anti-hnRNP K antibody

All lanes:
Western blot - Anti-hnRNP K antibody [F45 P9 C7] (ab23644) at 5 µg/mL

Lane 1:
NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 20 µg

Lane 2:
MEF1 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 20 µg

Lane 3:
Testis (Mouse) Tissue Lysate at 20 µg

Lane 4:
Lung (Mouse) Tissue Lysate at 20 µg

Lane 5:
PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate at 20 µg

Secondary

All lanes:

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

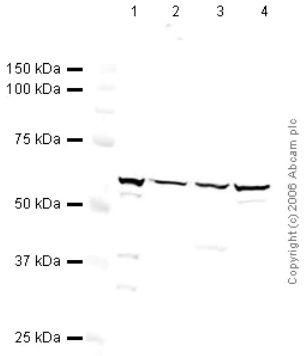
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 21 kDa, 24 kDa, 54 kDa, 56 kDa

Exposure time: 4min



Western blot - Anti-hnRNP K antibody [F45 P9 C7] (ab23644)

Lane 1:
Marker

Lanes 2 - 5:
Western blot - Anti-hnRNP K antibody [F45 P9 C7] (ab23644) at 1 µg/mL

Lane 2:
HeLa (Human epithelial carcinoma cell line) Nuclear Lysate (ab27251) at 20 µg

Lane 3:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate (ab27252) at 20 µg

Lane 4:
Western blot - Jurkat whole cell lysate (ab7899) at 20 µg

Lane 5:
Western blot - HEK-293 whole cell lysate (ab7902) at 20 µg

Secondary

All lanes:
Western blot - Rabbit Anti-Mouse IgG H&L (HRP) (ab6728) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 50 kDa

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