abcam

ab177957

Anti-hnRNP M1-M4 antibody [EPR13509(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR13509(B)
Purification technique	Affinity purification Protein A
Concentration	0.98 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	-

Species	Rat

Dilution info	1/4000
Notes	-

Species	Human
Dilution info	1/4000
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250

Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Target data

See full target information HNRNPM

Function	Pre-mRNA binding protein in vivo, binds avidly to poly(G) and poly(U) RNA homopolymers in vitro. Involved in splicing. Acts as a receptor for carcinoembryonic antigen in Kupffer cells, may initiate a series of signaling events leading to tyrosine phosphorylation of proteins and induction of IL-1 alpha, IL-6, IL-10 and tumor necrosis factor alpha cytokines.

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

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

Activity summary	Heterogeneous nuclear ribonucleoproteins M1-M4 often referred to as hnRNP M or hnRNPM are components of a family of RNA-binding proteins. These proteins have a molecular mass of approximately 77 kDa. They localize primarily in the nucleus but can shuttle between the nucleus and cytoplasm. hnRNP M plays a critical role in mRNA processing including splicing and transport. These proteins are ubiquitously expressed in many tissues highlighting their significance in numerous cellular processes.
Biological function summary	HnRNP M1-M4 are integral to RNA metabolism and the post-transcriptional regulation of gene expression. They participate in the spliceosome complex and influence alternative splicing events by interacting with pre-mRNA. Their binding activity modulates exon inclusion or exclusion contributing to the diversity of the proteome. hnRNP M also interacts with other RNA-binding proteins facilitating various RNA processing events.
Pathways	The activities of hnRNP M1-M4 intersect significantly with the RNA splicing machinery and mRNA transport pathways. They are integral to the spliceosome pathway and are known to interact with other splicing factors such as serine/arginine-rich proteins. This interaction is central to the regulation of

	alternative splicing. hnRNP M also influences the mRNA surveillance pathway ensuring proper mRNA maturation before export to the cytoplasm.
Associated diseases and disorders	HnRNP M1-M4 are associated with cancer and neurodegenerative diseases. Aberrations in hnRNP M expression or function can lead to altered splicing patterns fostering oncogenic processes. Furthermore changes in their activity have been observed in conditions like Alzheimer's disease where they may interact with tau protein and contribute to pathogenesis by affecting tau mRNA splicing. Understanding their role in these contexts provides insights into the mechanisms underpinning these diseases and informs potential 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

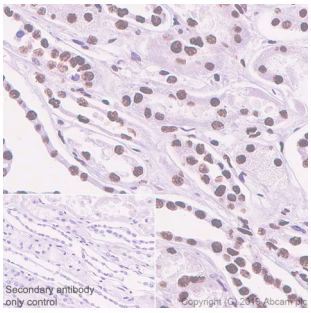
We do not recommend this combination. It is not covered by our product promise.

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.

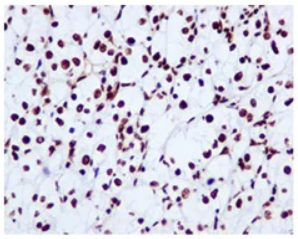
Full details and terms and conditions can be found here:
Terms & Conditions.

11 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

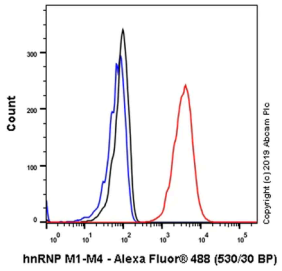
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling hnRNP M1-M4 with Purified ab177957 at 1:4000 dilution (0.24 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used for detection. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP M1-M4 antibody

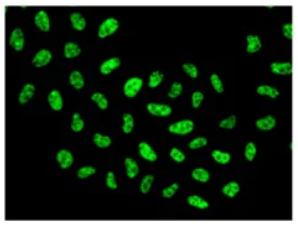
Immunohistochemical analysis of Human kidney carcinoma tissue labeling hnRNP M1-M4 using ab177957 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Flow Cytometry (Intracellular) staining using rabbit Anti-hnRNP M1-M4 antibody

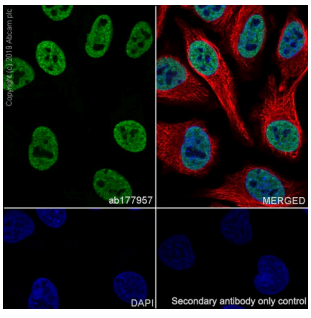
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling hnRNP M1-M4 with Purified ab177957 at 1/100 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-hnRNP M1-M4 antibody

Immunofluorescence analysis of HeLa cells labeling hnRNP M1-M4 using ab177957 at 1/100 dilution.

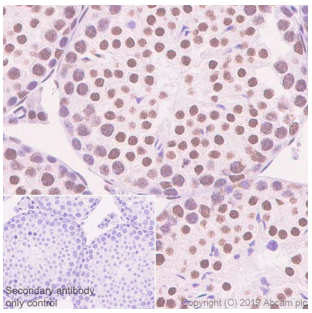


Immunocytochemistry/ Immunofluorescence - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-hnRNP M1-M4 antibody

Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling hnRNP M1-M4 with Purified ab177957 at 1:100 dilution (9.7 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were

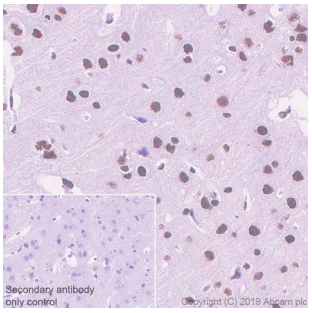
counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP M1-M4 antibody

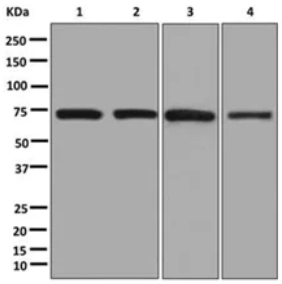
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse testis tissue sections labeling hnRNP M1-M4 with Purified ab177957 at 1:4000 dilution (0.24 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used for detection. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP M1-M4 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat cerebrum tissue sections labeling hnRNP M1-M4 with Purified ab177957 at 1:4000 dilution (0.24 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used for detection. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

All lanes:
Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957) at 1/1000 dilution

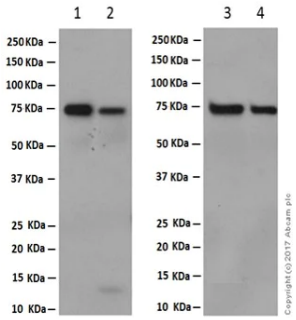
Lane 1:
HepG2 cell lysate at 10 µg

Lane 2:
HeLa cell lysate at 10 µg

Lane 3:
Jurkat cell lysate at 10 µg

Lane 4:
293T cell lysate at 10 µg

Predicted band size: 78 kDa



Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Western blot staining using rabbit Anti-hnRNP M1-M4 antibody

Blocking and Diluting buffer 5% NFDM/TBST
All lanes:
Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957) at 1/2000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse heart tissue lysate at 20 µg

Lane 3:
Rat brain tissue lysate at 20 µg

Lane 4:
Rat heart tissue lysate at 20 µg

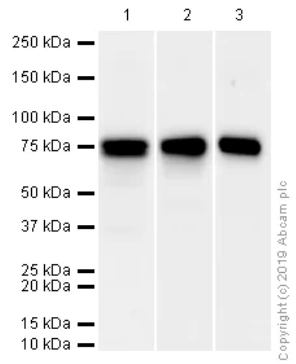
Secondary

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

Predicted band size: 78 kDa

Observed band size: 78 kDa

Exposure time: 3min



Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

All lanes:
Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957) at 1/10000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Lane 2:
Mouse brain lysates at 15 µg

Lane 3:
Rat brain lysates at 15 µg

Secondary

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

Predicted band size: 78 kDa

Observed band size: 78 kDa

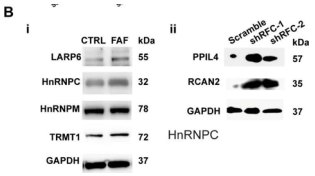


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-hnRNP M1-M4 antibody [EPR13509(B)] (ab177957)

HnRNP M1-M4 Western blot staining using rabbit Anti-hnRNP M1-M4 antibody

hnRNP M1-M4 western blot using anti-hnRNP M1-M4 antibody [EPR13509(B)] ab177957. Publication image and figure legend from Liu, W., Wang, K., et al., 2020, Int J Biol Sci, PubMed 31892848.

ab177957 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab177957 please see the product overview.

RBPs were highly expressed in the FAD NCC models in vitro. (A) The validation of GEO dataset GSE3548 data by real-time PCR. The expressions of HNRNPM, HNRNPC, LARP6, and TRMT1 were significantly up-regulated in FAF-group H9-NCCs compared to control-group H9-NCCs (i). The expressions of PPIL4 and RCAN2 were significantly up-regulated in the shRFC-group H9-NCCs compared to Scramble-group H9-NCCs. (B) Western blots showed evidence of up-regulation of LARP6, hnRNPC and TRMT1 proteins in the FAF-group H9-NCCs (i) and PPIL4 and RCAN2 proteins in the shRFC-group H9-NCCs. n≥3. * p<0.05, ** p<0.01. FAD, folic acid deficiency; RFC, reduced folate carrier; hnRNPM, heterogeneous nuclear ribonucleoprotein M; hnRNPC, heterogeneous nuclear ribonucleoprotein C; LARP6, La ribonucleoprotein domain family member 6; TRMT1, tRNA methyltransferase 1; PPIL4, peptidylprolyl isomerase like 4; RCAN2, regulator of calcineurin 2.

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