abcam

ab81224

Anti-PABPN1 antibody [EP3001Y]

RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EP3001Y
Purification technique	Affinity purification Protein A
Concentration	0.279 - 0.28 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Cow
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Predicted

Species	Mouse, Cow
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Mouse, Cow
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/60
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Cow
Dilution info	-
Notes	-

Target data

See full target information PABPN1

Function	Involved in the 3'-end formation of mRNA precursors (pre-mRNA) by the addition of a poly(A) tail of 200-250 nt to the upstream cleavage product (By similarity). Stimulates poly(A) polymerase (PAPOLA) conferring processivity on the poly(A) tail elongation reaction and also controls the poly(A) tail length (By similarity). Increases the affinity of poly(A) polymerase for RNA (By similarity). Is also present at various stages of mRNA metabolism including nucleocytoplasmic trafficking and nonsense-mediated decay (NMD) of mRNA. Cooperates with SKIP to synergistically activate E-box-mediated transcription through MYOD1 and may regulate the expression of muscle-specific genes (PubMed:11371506). Binds to poly(A) and to poly(G) with high affinity (By similarity). May protect the poly(A) tail from degradation (By similarity). Subunit of the trimeric poly(A) tail exosome targeting (PAXT) complex, a complex that directs a subset of long and polyadenylated poly(A) RNAs for exosomal degradation. The RNA exosome is fundamental for the degradation of RNA in eukaryotic nuclei. Substrate targeting is facilitated by its cofactor MTREX, which links to RNA-binding protein adapters (PubMed:27871484).

Storage

Shipped at conditions	Blue Ice
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.

Species reactivity
Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

Supplementary info

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

Activity summary	PABPN1 also known as polyadenylate-binding nuclear protein 1 is an RNA-binding protein that plays a fundamental role in the regulation of mRNA processing. It is a 31-kilodalton protein that binds to the poly(A) tail of pre-mRNA and stimulates the assembly of the polyadenylation complex thereby influencing the maturation and stability of mRNA transcripts. This protein is predominantly expressed in the nucleus of eukaryotic cells where it performs its important function in post-transcriptional regulation.
Biological function summary	PABPN1 is involved in controlling the polyadenylation process of pre-mRNA which is essential for producing mature mRNA molecules. PABPN1 operates within a multi-protein complex that includes enzymes like poly(A) polymerase and cleavage stimulation factor (CstF). By interacting with these proteins PABPN1 ensures the correct formation of the 3' end of mRNA influencing gene expression regulation and mRNA stability.
Pathways	PABPN1 participates in key cellular pathways such as mRNA processing and nuclear export of mRNA. It operates in concert with other proteins like PABPC1 which aids in the transition of mRNA from the nucleus to the cytoplasm. The protein maintains the balance of mRNA stability and translation efficiency which are critical aspects of efficient gene expression.
Associated diseases and disorders	PABPN1 mutations are linked to oculopharyngeal muscular dystrophy (OPMD) a genetic condition that leads to muscle weakness. Another related disorder involves its interaction with proteins like HSP70 where its dysfunction may contribute to disrupted protein homeostasis in affected tissues. Studying PABPN1's role in these diseases provides insight into the molecular mechanisms underlying these conditions and aids in the development of potential therapeutic strategies.

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.

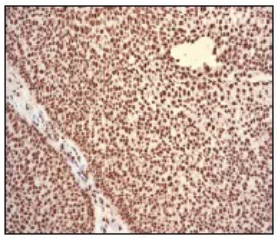
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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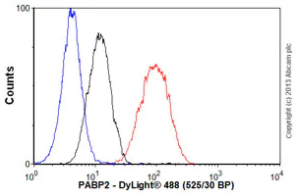
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PABPN1 antibody [EP3001Y] (ab81224)

PABPN1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PABPN1 antibody

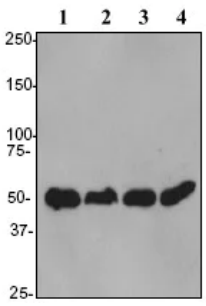
Immunohistochemistry staining of paraffin-embedded urinary bladder transitional cell carcinoma tissue, using 1/100 ab81224
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-PABPN1 antibody [EP3001Y] (ab81224)

PABPN1 Flow Cytometry (Intracellular) staining using rabbit Anti-PABPN1 antibody

Overlay histogram showing HeLa cells stained with ab81224 (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 (ab81224, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line). Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Western blot - Anti-PABPN1 antibody [EP3001Y] (ab81224)

All lanes:
Western blot - Anti-PABPN1 antibody [EP3001Y] (ab81224) at 1/20000 dilution

Lane 1:
T47D cell lysates at 10 µg

Lane 2:
SKBR3 cell lysates at 10 µg

Lane 3:
Ramos cell lysates at 10 µg

Lane 4:
Raji cell lysates at 10 µg

Secondary

All lanes:
HRP labelled goat anti rabbit at 1/2000 dilution

Predicted band size: 33 kDa

Observed band size: 50 kDa

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