abcam

ab131245

Anti-CPSF73 antibody [EPR7468]

Recombinant | 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	EPR7468
Purification technique	Affinity purification Protein A
Dissociation constant	1.7×10^{-11} M
Concentration	0.507 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

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

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

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

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/250
Notes	-

Expected

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

Target data

See full target information CPSF3

Function

Component of the cleavage and polyadenylation specificity factor (CPSF) complex that plays a key role in pre-mRNA 3'-end formation, recognizing the AAUAAA signal sequence and interacting with poly(A) polymerase and other factors to bring about cleavage and poly(A) addition. Has endonuclease activity, and functions as an mRNA 3'-end-processing endonuclease (PubMed:30507380). Also involved in the histone 3'-end pre-mRNA processing (PubMed:30507380). U7 snRNP-dependent protein that induces both the 3'-endoribonucleolytic cleavage of histone pre-mRNAs and acts as a 5' to 3' exonuclease for degrading the subsequent downstream cleavage product (DCP) of mature histone mRNAs. Cleavage occurs after the 5'-ACCCA-3' sequence in the histone pre-mRNA leaving a 3'hydroxyl group on the upstream fragment containing the stem loop (SL) and 5' phosphate on the downstream cleavage product (DCP) starting with CU nucleotides. The U7-dependent 5' to 3' exonuclease activity is processive and degrades the DCP RNA substrate even after complete removal of the U7-binding site. Binds to the downstream cleavage product (DCP) of histone pre-mRNAs and the cleaved DCP RNA substrate in a U7 snRNP dependent manner. Required for entering/progressing through S-phase of the cell cycle (PubMed:30507380). Required for the selective processing of microRNAs (miRNAs) during embryonic stem cell differentiation via its interaction with ISY1 (By similarity). Required for the biogenesis of all miRNAs from the pri-miR-17-92 primary transcript except miR-92a (By similarity). Only required for the biogenesis of miR-290 and miR-96 from the pri-miR-290-295 and pri-miR-96-183 primary transcripts, respectively (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

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	CPSF73 also known as Cleavage and Polyadenylation Specificity Factor 73 is an important component of the mRNA processing machinery. Mechanically CPSF73 functions as an endonuclease that cleaves pre-mRNA at the 3' end a necessary step for the addition of a poly(A) tail. CPSF73 has a molecular mass of approximately 73 kDa. This protein is expressed ubiquitously across various cell types reflecting its essential role in gene expression regulation.
Biological function summary	The mRNA processing involves CPSF73 as part of the larger cleavage and polyadenylation complex. This complex is responsible for recognizing specific cleavage sites within pre-mRNA and is critical for mRNA maturation. CPSF73's activity ensures the proper maturation of messenger RNA facilitating its export from the nucleus translation into proteins and subsequent degradation. The endonuclease works closely with other components of the complex including CPSF160 CPSF100 and CFIm suggesting that its role extends beyond just cleavage to broader mRNA stability and regulation.
Pathways	CPSF73 actively participates in the mRNA processing pathway playing an integral role in post-transcriptional regulation. It also interfaces with the spliceosome machinery illustrating the crosstalk between pre-mRNA splicing and polyadenylation sites. CPSF73 is closely related to other RNA processing proteins

	such as CstF-64 and Symplekin which together maintain the precise regulation of gene expression. This interrelation is particularly important in pathways where timing of mRNA processing impacts cellular function and response.
Associated diseases and disorders	CPSF73's malfunction could lead to serious implications including cancer and genetic disorders. Aberrant expression or mutations in CPSF73 have been linked to various cancers as they directly affect mRNA maturation and stability which could result in unchecked cell proliferation. Furthermore its connection with proteins such as CPSF160 has been observed in cancers where dysregulation of mRNA processing pathways contribute to tumorigenesis. Disorders like these highlight the necessity of CPSF73 for maintaining cellular health and proper gene expression.

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

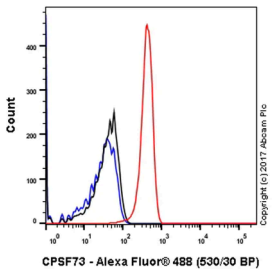
We do not recommend this combination. It is not covered by our product promise.

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.

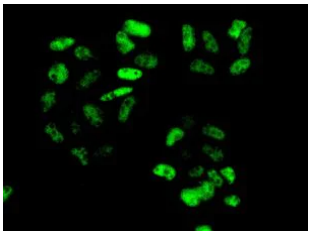
5 product images



Flow Cytometry (Intracellular) - Anti-CPSF73 antibody [EPR7468] (ab131245)

CPSF73 Flow Cytometry (Intracellular) staining using rabbit Anti-CPSF73 antibody

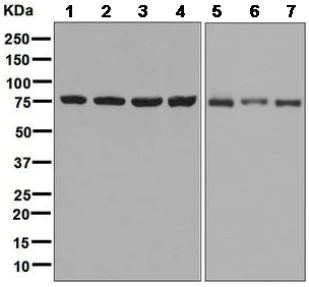
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling CPSF73 (red) with ab131245 at a 1/250 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluorr® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with primary and secondary antibodies.



Immunocytochemistry/ Immunofluorescence - Anti-CPSF73 antibody [EPR7468] (ab131245)

CPSF73 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CPSF73 antibody

Immunofluorescence analysis of HeLa cells labelling CPSF73 with ab131245 at 1/50 dilution.



Western blot - Anti-CPSF73 antibody [EPR7468] (ab131245)

All lanes:
Western blot - Anti-CPSF73 antibody [EPR7468] (ab131245) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
293T cell lysate at 10 µg

Lane 3:
Jurkat cell lysate at 10 µg

Lane 4:
Caco-2 cell lysate at 10 µg

Lane 5:
RAW 264.7 cell lysate at 10 µg

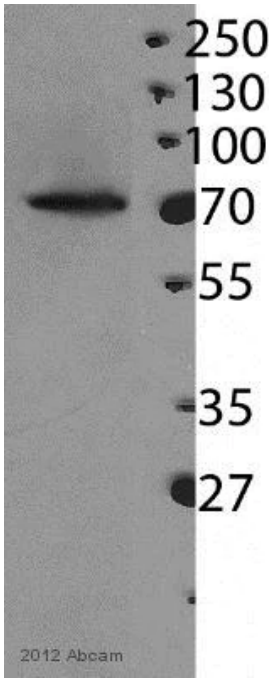
Lane 6:
PC-12 cell lysate at 10 µg

Lane 7:
NIH/3T3 cell lysate at 10 µg

Secondary

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

Predicted band size: 77 kDa

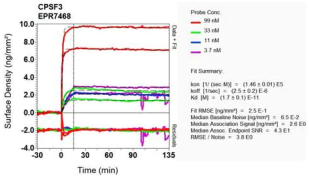


Western blot - Anti-CPSF73 antibody [EPR7468] (ab131245)

All lanes:
Western blot - Anti-CPSF73 antibody [EPR7468] (ab131245) at 1/1000 dilution

All lanes:
U2OS whole cell lysate at 100 µg

Predicted band size: 77 kDa



OI-RD Scanning - Anti-CPSF73 antibody [EPR7468] (ab131245)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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