abcam

ab180506

Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal

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	EPR14505(B)
Purity	Tissue culture supernatant

Reactivity data

WB

Tested

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

Predicted

Species	Mouse, Rat

Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information EIF4A1

Function	ATP-dependent RNA helicase which is a subunit of the eIF4F complex involved in cap recognition and is required for mRNA binding to ribosome

(PubMed:20156963). In the current model of translation initiation, eIF4A unwinds RNA secondary structures in the 5'-UTR of mRNAs which is necessary to allow efficient binding of the small ribosomal subunit, and subsequent scanning for the initiator codon. As a result, promotes cell proliferation and growth (PubMed:20156963).

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	The eukaryotic initiation factor 4A1 also known as eIF4A1 is an essential RNA helicase part of the DEAD-box family. It unwinds secondary structures in the 5' untranslated region of mRNA facilitating ribosome binding during translation initiation. This protein has a molecular mass of approximately 46 kDa. Expressed

	ubiquitously in eukaryotic cells eIF4A1 plays a central role in regulating protein synthesis by enhancing the accessibility of mRNA templates to the ribosome.
Biological function summary	The eIF4A1 protein functions as a component of the eIF4F complex which includes eIF4E and eIF4G. This complex modulates the initiation of mRNA translation a critical step in gene expression. By associating with other initiation factors eIF4A1 helps orchestrate the recruitment of the ribosome to capped mRNA. Its activity influences cell growth proliferation and response to environmental signals.
Pathways	EIF4A1 involves in the regulation of the mTOR signaling pathway which controls cell growth based on nutrient availability. It also participates in the integrated stress response pathway linking stress signals to translational control. eIF4A1 interacts with other proteins such as eIF4E and eIF4G through its function within these pathways highlighting its role in translation regulation.
Associated diseases and disorders	EIF4A1 has been implicated in cancer and neurodegenerative diseases. Aberrant regulation of eIF4A1 expression and activity contributes to oncogenesis by promoting uncontrolled protein synthesis and cell proliferation. In neurodegenerative disorders altered eIF4A1 activity disrupts normal neuronal function and viability. Connections to proteins like eIF4E highlight its impact on disease progression emphasizing the importance of understanding eIF4A1's functional mechanisms in these contexts.

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

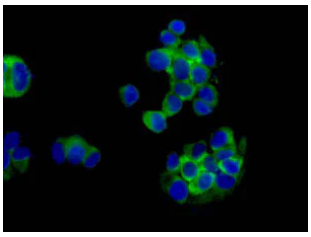
We do not recommend this combination. It is not covered by our product promise.

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.

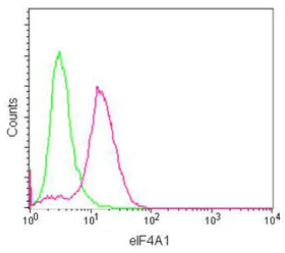
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal (ab180506)

EIF4A1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-eIF4A1 antibody

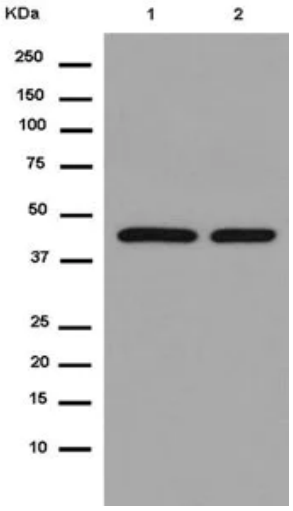
Immunofluorescence analysis of MCF-7 cells labeling eIF4A1 (green) with ab180506 at 1/250 dilution. Cells were fixed with 4% paraformaldehyde. An Alexa Fluor® 488-conjugated goat anti rabbit IgG was used as the secondary antibody. Nuclei were counterstained with DAPI (blue).



Flow Cytometry (Intracellular) - Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal (ab180506)

EIF4A1 Flow Cytometry (Intracellular) staining using rabbit Anti-eIF4A1 antibody

Intracellular Flow Cytometry analysis of eIF4A1 expression in K562 cells using ab180506 at 1/50 dilution (red) and a rabbit IgG as negative control (green). A FITC-conjugated goat anti-rabbit IgG was used as the secondary antibody at 1/75 dilution.



Western blot - Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal (ab180506)

EIF4A1 Western blot staining using rabbit Anti-eIF4A1 antibody

All lanes:
Western blot - Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal (ab180506) at 1/10000 dilution

Lane 1:
MCF7 cell lysate at 20 µg

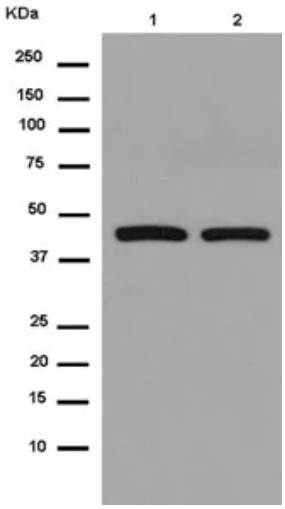
Lane 2:
K562 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 46 kDa

Observed band size: 46 kDa



Western blot - Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal (ab180506)

Blocking buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-eIF4A1 antibody [EPR14505(B)] - N-terminal (ab180506) at 1/2000 dilution

Lane 1:
HeLa cell lysate at 20 µg

Lane 2:
HepG2 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 46 kDa

Observed band size: 46 kDa

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