abcam

ab140632

Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470]

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	EPR9470
Purification technique	Affinity purification Protein A
Specificity	EE1AL3/EEF1A1P5 it's a suspected pseudogene (https://www.ncbi.nlm.nih.gov/gene/158078). Our validation shows that this clone is able to detect Recombinant EF1AL3/EEF1A1P5 but endogenous protein expression is yet unknown.
Concentration	0.065 - 0.105 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

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

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

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

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information EEF1A1

Function	Translation elongation factor that catalyzes the GTP-dependent binding of aminoacyl-tRNA (aa-tRNA) to the A-site of ribosomes during the elongation phase of protein synthesis (PubMed:26593721, PubMed:26651998, PubMed:36123449, PubMed:36264623, PubMed:36638793). Base pairing between the mRNA codon and the aa-tRNA anticodon promotes GTP hydrolysis, releasing the aa-tRNA from EEF1A1 and allowing its accommodation into the ribosome (PubMed:26593721, PubMed:26651998, PubMed:36123449, PubMed:36264623, PubMed:36638793). The growing protein chain is subsequently transferred from the P-site peptidyl tRNA to the A-site aa-tRNA, extending it by one amino acid through ribosome-catalyzed peptide bond formation (PubMed:26593721, PubMed:26651998, PubMed:36123449, PubMed:36264623). Also plays a role in the positive regulation of IFNG transcription in T-helper 1 cells as part of an IFNG promoter-binding complex with TXK and PARP1 (PubMed:17177976). Also plays a role in cytoskeleton

organization by promoting actin bundling (By similarity). (Microbial infection) Required for the translation of viral proteins and viral replication during human coronavirus SARS-CoV-2 infection.

Storage

Shipped at conditions	Conditional Ambient
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 eEF1A1 also known as EF-Tu or eEF1A1-L3 is an elongation factor involved in protein synthesis. It facilitates the delivery of aminoacyl-tRNA to the A-site of the ribosome during translation. eEF1A1 exhibits a mass of approximately 50 kDa and is widely expressed in various tissues including the brain heart and skeletal muscle. Its expression level varies indicating that it plays a consistent role in translation machinery but may have tissue-specific functions.
Biological function summary	This elongation factor is important in promoting the accuracy and efficiency of protein translation. It interacts with several components of the protein synthesis machinery and forms part of a larger translational complex. eEF1A1 is involved in

	ensuring the correct amino acids are added during protein synthesis which affects protein structure and function. In addition to its canonical role it also engages in processes such as actin filament binding nuclear transport and other cell maintenance tasks.
Pathways	The activities of eEF1A1 intersect with key processes involved in cellular growth and proliferation. It plays a significant role in the mTOR signaling pathway which regulates cell growth by controlling protein synthesis. eEF1A1 also interacts with proteins like Rheb an important player in mTOR signaling. By participating in these pathways eEF1A1 links translation with broader regulatory networks that control cell metabolism.
Associated diseases and disorders	EEF1A1 has connections to cancer and neurodegenerative diseases. Its elevated expression is often observed in several cancer types suggesting a role in tumorigenesis. Additionally misregulation of eEF1A1 may contribute to neurodegenerative disorders such as Alzheimer's disease where alterations in protein synthesis pathways are common. The protein's interaction with tau known in neuropathological conditions highlights its impact on neurodegeneration.

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

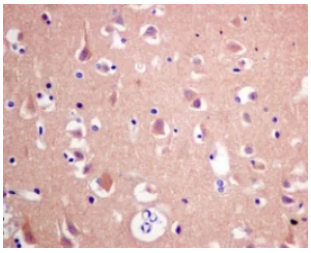
We do not recommend this combination. It is not covered by our product promise.

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.

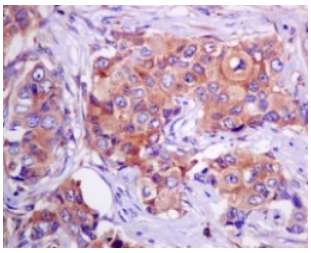
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632)

EEF1A1/EF-Tu + EE1AL3/EEF1A1P5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody

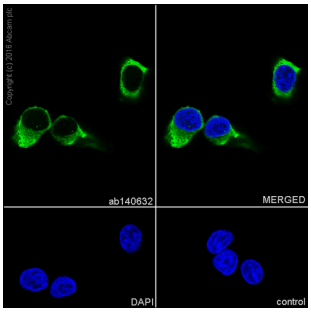
Immunohistochemical analysis of paraffin embedded Human brain tissue labelling eEF1A1/EF-Tu + EE1AL3/EEF1A1P5with ab140632 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632)

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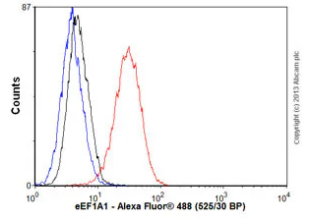
Immunohistochemical analysis of paraffin embedded Human breast carcinoma tissue labelling eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 with ab140632 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632)

EEF1A1/EF-Tu + EE1AL3/EEF1A1P5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody

Immunocytochemistry/Immunofluorescence analysis of MCF-7 cells labelling eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 with purified ab140632 at a dilution of 1/500. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077 an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. Nuclei counterstained with DAPI (blue).
Control: PBS only.

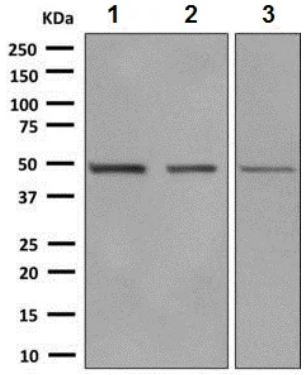


Flow Cytometry (Intracellular) - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632)

EEF1A1/EF-Tu + EE1AL3/EEF1A1P5 Flow Cytometry (Intracellular) staining using rabbit Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody

Overlay histogram showing MCF7 cells stained with ab140632 (red line). The cells were fixed with 4% paraformaldehyde (10 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 (ab140632 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5000 events were collected using a 20mW Argon ion

laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in MCF7 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632)

EEF1A1/EF-Tu + EE1AL3/EEF1A1P5 Western blot staining using rabbit Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody

All lanes:
Western blot - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

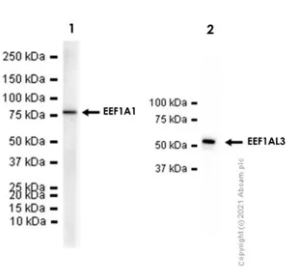
Lane 2:
MCF-7 cell lysate at 10 µg

Lane 3:
293T cell lysate at 10 µg

Secondary

All lanes:
HRP labelled Goat anti-Rabbit at 1/2000 dilution

Predicted band size: 50 kDa



Western blot - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632)

EEF1A1/EF-Tu + EE1AL3/EEF1A1P5 Western blot staining using rabbit Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody

EE1AL3/EEF1A1P5 it's a suspected pseudogene (https://www.ncbi.nlm.nih.gov/gene/158078). Our validation shows that this clone is able to detect Recombinant EF1AL3/EEF1A1P5 but endogenous protein expression is yet unknown.

All lanes:
Western blot - Anti-eEF1A1/EF-Tu + EE1AL3/EEF1A1P5 antibody [EPR9470] (ab140632) at 1/1000 dilution

Lane 1:
GST tagged Recombinant Human EEF1A1 protein (Full length, 76 KDa)

Lane 2:
His tagged Recombinant Human EEF1AL3 protein (Full length, 52 KDa)

Secondary

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

Predicted band size: 50 kDa

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