abcam

ab239816

Anti-eIF5A antibody [EP526Y] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP526Y
Purification technique	Affinity purification Protein A
Specificity	This antibody shows low affinity in recognizing eIF5A2 recombinant protein.
Concentration	1.057 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein - Human, Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information EIF5A

Function	Translation factor that promotes translation elongation and termination, particularly upon ribosome stalling at specific amino acid sequence contexts (PubMed:33547280). Binds between the exit (E) and peptidyl (P) site of the ribosome and promotes rescue of stalled ribosome: specifically required for efficient translation of polyproline-containing peptides as well as other motifs that stall the ribosome (By similarity). Acts as a ribosome quality control (RQC) cofactor by joining the RQC complex to facilitate peptidyl transfer during CAT tailing step (By similarity). Also involved in actin dynamics and cell cycle progression, mRNA decay and probably in a pathway involved in stress response and maintenance of cell wall integrity (PubMed:16987817). With syntenin SDCBP, functions as a regulator of p53/TP53 and p53/TP53-dependent apoptosis (PubMed:15371445). Also regulates TNF-mediated apoptosis (PubMed:15452064, PubMed:17187778). Mediates effects of polyamines on neuronal process extension and survival (PubMed:17360499). Is required for autophagy by assisting the ribosome in translating the ATG3 protein at a specific amino acid sequence, the 'ASP-ASP-Gly'

motif, leading to the increase of the efficiency of ATG3 translation and facilitation of LC3B lipidation and autophagosome formation (PubMed:29712776). (Microbial infection) Cellular cofactor of human T-cell leukemia virus type I (HTLV-1) Rex protein and of human immunodeficiency virus type 1 (HIV-1) Rev protein, essential for mRNA export of retroviral transcripts.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab239816 is the carrier-free version of ab32443.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	EIF5A also known as eukaryotic translation initiation factor 5A is a small protein with a molecular mass of approximately 18 kDa. It plays a significant mechanical role in the translation process by facilitating the formation of the first peptide bond in protein synthesis. eIF5A is expressed ubiquitously across various tissues and is noted for being the only protein known to undergo the unique post-translational modification called hypusination which is necessary for its function.
Biological function summary	EIF5A participates in regulating translation cell proliferation and apoptosis. eIF5A functions as part of a complex involved in ribosome-associated protein synthesis supporting the elongation of polyproline-containing peptides. It helps in maintaining cellular homeostasis by modulating the translation of specific sets of mRNAs that are critical for various cellular responses.
Pathways	EIF5A's role is particularly relevant in translation elongation and mRNA turnover pathways. It interacts closely with the elongation factors eEF2 and eEF1A to promote efficient protein synthesis. In the mRNA turnover pathway eIF5A has connections with proteins such as Dcp2 and Xrn1 which play a role in the degradation of mRNA thereby influencing mRNA stability and turnover.
Associated diseases and disorders	EIF5A is linked to cancer and neurodegenerative diseases. Alterations in its function and expression levels have been observed in several cancer types highlighting its role in tumor progression. The protein's connection to apoptosis pathways suggests its involvement in neurodegenerative disorders such as Alzheimer's disease where cell death and tissue degeneration are prevalent. eIF5A associates with proteins like Bcl-2 in cancer and Tau in neurodegeneration indicating its varied impact on disease processes.

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

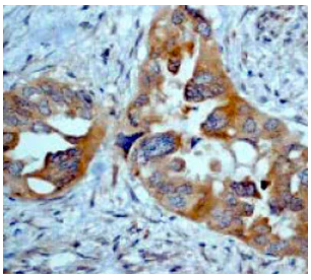
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images

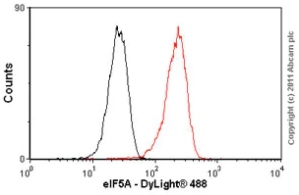


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

EIF5A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-eIF5A antibody

ab32443 at a 1:250 dilution staining eIF5A in human adenocarcinoma of uterus using Immunohistochemistry, Paraffin Embedded Tissue.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32443).

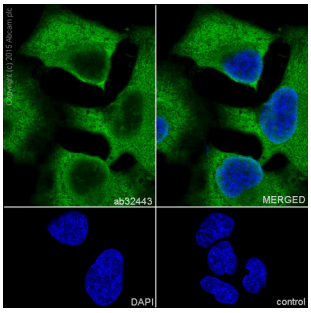
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

EIF5A Flow Cytometry (Intracellular) staining using rabbit Anti-eIF5A antibody

This data was developed using ab32443, the same antibody clone in a different buffer formulation. Overlay histogram showing Jurkat cells stained with ab32443 (red line). The cells were fixed with 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 (ab32443, 1/50 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 monoclonal IgG (0.5µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.

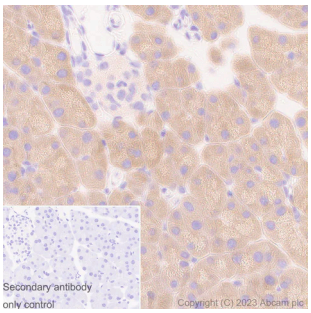


Immunocytochemistry/ Immunofluorescence - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

EIF5A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-eIF5A antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa (human cervix adenocarcinoma) cells labelling eIF5A with purified ab32443 at 1/500. Cells were fixed with 4% Paraformaldehyde. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (ab150077) at 1/1000 dilution was used as the secondary antibody. Nuclei couterstained with DAPI (blue).
Secondary Only Control: PBS was used instead of the primary antibody as the negative control

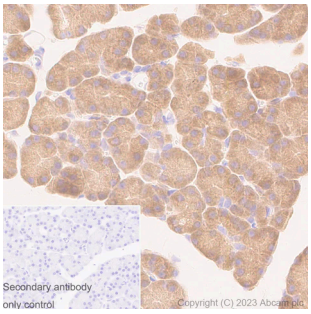
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32443).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

This data was developed using ab32443, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Mouse pancreas labeling eIF5A with ab32443 at 1/1000 dilution (0.101 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on the Mouse pancreas. The section was incubated with ab32443 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins..



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

This data was developed using ab32443, the same antibody clone in a different buffer formulation.

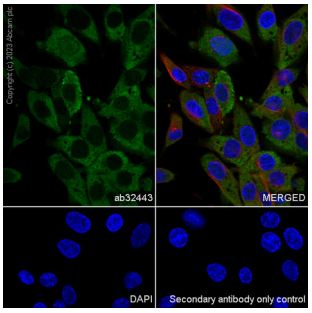
Immunohistochemical analysis of paraffin-embedded Rat pancreas labeling eIF5A with ab32443 at 1/1000 dilution (0.101 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on the Rat pancreas. The section was incubated with ab32443 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins..



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

This data was developed using ab32443, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle labeling eIF5A with ab32443 at 1/1000 dilution (0.101 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: Negligible staining on the mouse cardiac muscle. The section was incubated with ab32443 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

EIF5A Immunocytochemistry/ Immunofluorescence staining of C6 cell line using rabbit Anti-eIF5A antibody

This data was developed using ab32443, the same antibody clone in a different buffer formulation

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized C6 (rat glial tumor glial cell) labelling eIF5A with ab32443 at 1/250 dilution (Green).

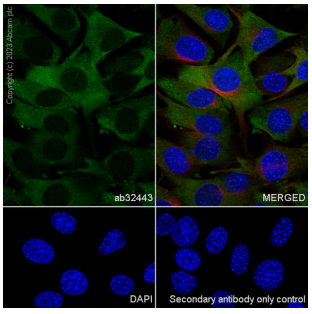
Confocal image showing Mitochondria staining in C6 cell line.

Nuclear DNA was labelled with DAPI (shown in blue).

Secondary used was ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/ml).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody -Microtubule Marker (Alexa Fluor® 594) was used as a counterstain at 1/200 (2.5 µg/ml) dilution.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

EIF5A Immunocytochemistry/ Immunofluorescence staining of NIH/3T3 cell line using rabbit Anti-eIF5A antibody

This data was developed using ab32443, the same antibody clone in a different buffer formulation

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) labelling eIF5A with ab32443 at 1/250 dilution (Green).

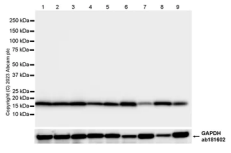
Confocal image showing Mitochondria staining in NIH/3T3 cell line.

Nuclear DNA was labelled with DAPI (shown in blue).

Secondary used was ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/ml).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody -Microtubule Marker (Alexa Fluor® 594) was used as a counterstain at 1/200 (2.5 µg/ml) dilution.

Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).



Western blot - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

This data was developed using ab32443, the same antibody clone in a different buffer formulation.

Blocking and Diluting buffer and concentration: 5% NFDM/TBST.

Low expression control: mouse and rat heart.

In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution.

All lanes:

Western blot - Anti-eIF5A antibody [EP526Y] (ab32443) at 1/1000 dilution

Lane 1:
Jurkat (human T cell leukemia T lymphocyte from peripheral blood) whole cell lysate at 20 µg

Lane 2:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 3:
RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Lane 4:
C6 (rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 5:
PC-12 (rat adrenal gland pheochromocytoma cell) whole cell lysate at 20 µg

Lane 6:
Mouse pancreas tissue lysate at 20 µg

Lane 7:
Mouse heart tissue lysate at 20 µg

Lane 8:
Rat pancreas tissue lysate at 20 µg

Lane 9:
Rat heart tissue lysate at 20 µg

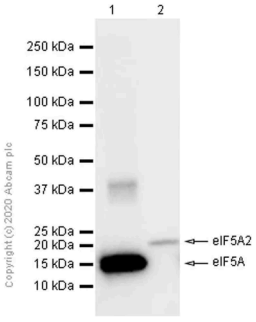
Secondary

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

Predicted band size: 16 kDa

Observed band size: 16 kDa

Exposure time: 1s



Western blot - Anti-eIF5A antibody [EP526Y] - BSA and Azide free (ab239816)

EIF5A Western blot staining using rabbit Anti-eIF5A antibody

This data was developed using ab32443, the same antibody clone in a different buffer formulation.
Blocking buffer: 5% NFDM/TBST

This antibody shows low affinity in recognizing eIF5A2 recombinant protein.

All lanes:
Western blot - Anti-eIF5A antibody [EP526Y] (ab32443) at 1/2000 dilution

Lane 1:
Western blot - Recombinant Human eIF5A protein (Tag Free) (ab87457) at 0.01 µg

Lane 2:
Western blot - Recombinant Human eIF5A2 protein (His tag N-Terminus) (ab99140) at 0.01 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 16 kDa

Observed band size: 15 kDa, 20 kDa

Exposure time: 20s

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