abcam

ab75748

Anti-EEF2/Elongation factor 2 antibody [EP880Y]

Recombinant | RabMAb | 20ul selling size

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), 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP880Y
Purification technique	Affinity purification Protein A
Concentration	0.293 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/250
Notes	-

Species	Rat

Dilution info	1/100 - 1/250
Notes	-

Species	Human
Dilution info	1/100 - 1/250
Notes	-

IP

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

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

WB

Tested

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

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

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/70
Notes	ab172730- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information EEF2

Function	Catalyzes the GTP-dependent ribosomal translocation step during translation elongation (PubMed:26593721). During this step, the ribosome changes from the pre-translocational (PRE) to the post-translocational (POST) state as the newly

formed A-site-bound peptidyl-tRNA and P-site-bound deacylated tRNA move to the P and E sites, respectively (PubMed:26593721). Catalyzes the coordinated movement of the two tRNA molecules, the mRNA and conformational changes in the ribosome (PubMed:26593721).

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	EEF2 or elongation factor 2 is an important protein in the process of translation during protein synthesis. It is also known by the names EF-2 and EF2. This protein facilitates the translocation step where it moves tRNA and mRNA from the A-site to the P-site on the ribosome. EEF2 has a molecular weight of approximately 95 kDa. The protein is ubiquitously expressed in various tissues and cells due to its fundamental role in protein synthesis making it essential for cellular activities.

Biological function summary	EEF2 functions as part of a larger ribosomal complex. It has an important role in ensuring the accuracy and efficiency of elongation during the translation process. This process is energy-dependent with EEF2 requiring GTP to catalyze the movement along the mRNA strand. The protein must undergo reversible phosphorylation which directly affects its activity. This post-translational modification of EEF2 is a significant modulation point influencing the rate of protein synthesis.
Pathways	EEF2 plays an integral role in the mTOR signaling pathway and the insulin signaling pathway. In the mTOR pathway EEF2 activity is regulated to control protein translation based on cellular energy status and nutrient availability. This pathway is important for cell growth and proliferation. EEF2 interacts with other proteins such as factor 2 and eEF2kinase which phosphorylates the protein thereby inhibiting its activity. In the insulin signaling pathway similar regulatory mechanisms impact EEF2's role in translation.
Associated diseases and disorders	EEF2 connects to cancer and neurodegenerative diseases. In cancer aberrant regulation of EEF2 can lead to uncontrolled protein synthesis promoting cell proliferation and tumor growth. Its interaction with mTOR and other signaling proteins like ribosomal proteins plays a role in this dysregulation. In neurodegenerative conditions such as Alzheimer's disease impaired EEF2 activity results in decreased synaptic protein synthesis affecting neuronal function. Understanding EEF2's regulation and dysregulation provides insight into its involvement in these diseases offering potential for therapeutic intervention.

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

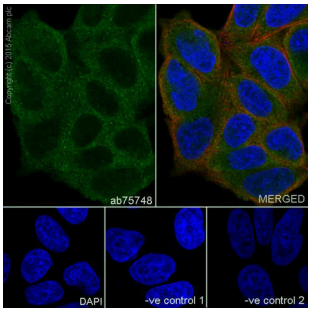
We do not recommend this combination. It is not covered by our product promise.

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.

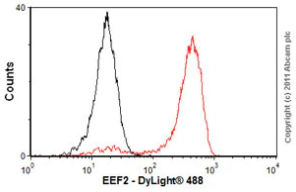
10 product images



Immunocytochemistry/ Immunofluorescence - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-EEF2/Elongation factor 2 antibody

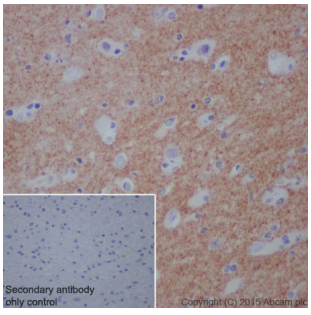
ab75748 staining EEF2/Elongation factor 2 in HeLa (human cervix adenocarcinoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody. ab7291 and ab150120 were used as counterstains for primary antibody ab75748 and secondary antibody ab150077 respectively and DAPI was used as a nuclear counterstain.
Negative control 1: Rabbit primary antibody and anti-mouse secondary antibody (ab150120)
Negative control 2: Mouse primary antibody (ab7291) and anti-rabbit secondary antibody (ab150077)



Flow Cytometry (Intracellular) - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Flow Cytometry (Intracellular) staining using rabbit Anti-EEF2/Elongation factor 2 antibody

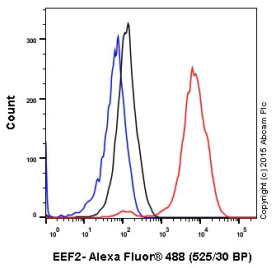
Overlay histogram showing HeLa cells stained with ab75748 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab75748, 1µg/1x10^6 cells) 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. Acquisition of >5,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-EEF2/Elongation factor 2 antibody

ab75748 staining EEF2/Elongation factor 2 in human glioma tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/250. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody.
Negative control 1: PBS in place of primary antibody.

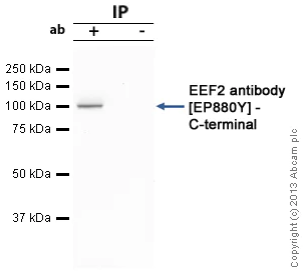


Flow Cytometry (Intracellular) - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Flow Cytometry (Intracellular) staining using rabbit Anti-EEF2/Elongation factor 2 antibody

ab75748 stainingEEF2/Elongation factor 2 in the human cell line HEK293 (human embryonic kidney) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and the sample was incubated with the primary antibody at a dilution of 1/70. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/500 was used as the secondary antibody.
Isoytype control: Rabbit monoclonal IgG (Black)

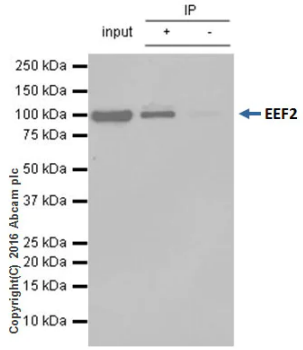
Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)



Immunoprecipitation - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 was immunoprecipitated using 0.5mg Hela whole cell extract, 5µg of Rabbit monoclonal to EEF2/Elongation factor 2 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Hela whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70ºC; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab75748.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (ab99697).
Band: 95kDa; EEF2/Elongation factor 2
All lanes:
Immunoprecipitation - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

Predicted band size: 95 kDa



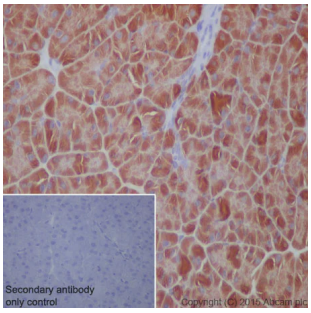
Immunoprecipitation - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

ab75748 immunoprecipitating EEF2/Elongation factor 2. 10µg of cell lysate was incubated with primary antibody at a dilution of 1/20 and VeriBlot for IP Detection Reagent (HRP) (ab131366) at a dilution of 1/10000.
Lane 1: HeLa (human cervix adenocarcinoma) whole cell lysate (10ug)
Lane 2: HeLa (human cervix adenocarcinoma) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab75748 in HeLa (human cervix adenocarcinoma) whole cell lysate

All lanes:
Immunoprecipitation - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

Predicted band size: 95 kDa

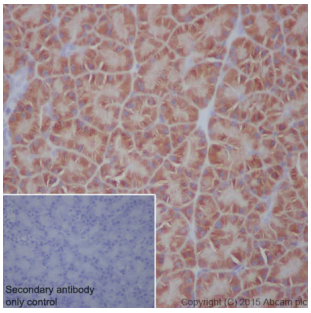
Observed band size: 95 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-EEF2/Elongation factor 2 antibody

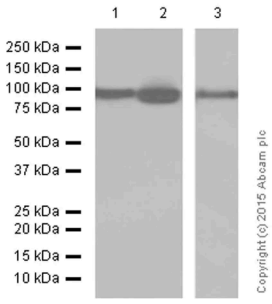
ab75748 staining EEF2/Elongation factor 2 in mouse pancreas tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/250. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody.
Negative control 1: PBS in place of primary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-EEF2/Elongation factor 2 antibody

ab75748 staining EEF2/Elongation factor 2 in rat pancreas tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/700. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.



Western blot - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Western blot staining using rabbit Anti-EEF2/Elongation factor 2 antibody

All lanes:
Western blot - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748) at 1/50000 dilution

Lane 1:
HEK293 (human embryonic kidney) whole cell lysates at 20 µg

Lane 2:
HeLa (human cervix adenocarcinoma) whole cell lysates at 20 µg

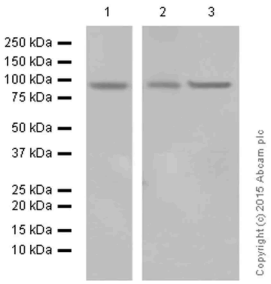
Lane 3:
A431 (human epidermoid carcinoma) whole cell lysates at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 95 kDa

Observed band size: 95 kDa



Western blot - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748)

EEF2/Elongation factor 2 Western blot staining using rabbit Anti-EEF2/Elongation factor 2 antibody

All lanes:
Western blot - Anti-EEF2/Elongation factor 2 antibody [EP880Y] (ab75748) at 1/100000 dilution

Lane 1:
C6 (rat glioma) whole cell lysates at 20 µg

Lane 2:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysates at 20 µg

Lane 3:
NIH/3T3 (mouse embryo) whole cell lysates at 20 µg

Predicted band size: 95 kDa

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