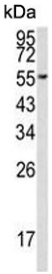
EEF1A1/2 Antibody / Translation Elongation Factor Antibody (F54865)

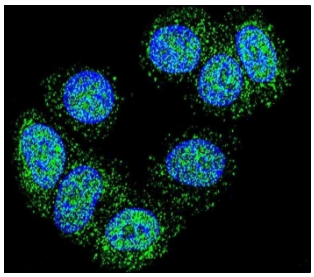
Catalog No.	Formulation	Size
F54865-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F54865-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

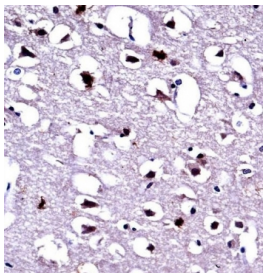
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	P68104
Localization	Cytoplasmic, nuclear
Applications	Flow cytometry: 1:10-1:50 (1x10e6 cells) Immunofluorescence: 1:10-1:50 Immunohistochemistry (FFPE): 1:10-1:50 Western blot: 1:500-1:1000
Limitations	This EEF1A1/2 Antibody / Translation Elongation Factor Antibody is available for research use only.



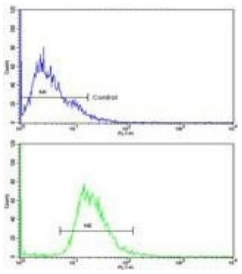
EEF1A1/2 Antibody Human MCF7 WB. Western blot analysis of EEF1A1/2 expression was performed using anti-EEF1A1/2 antibody in human MCF7 cell lysate. EEF1A1 and EEF1A2, also known as eukaryotic elongation factor 1 alpha proteins, are highly conserved GTP-binding factors that mediate aminoacyl-tRNA delivery during the elongation phase of protein synthesis. A prominent immunoreactive band is detected at approximately 50 kDa, corresponding to the predicted molecular weight of EEF1A1/2. Strong expression in MCF7 breast carcinoma cells is consistent with the abundant and ubiquitous nature of eEF1A proteins and their essential roles in translational control, cytoskeletal organization, and cellular proliferation. These results support the utility of EEF1A1/2 Antibody for studies of protein synthesis, cell growth, and cancer biology.



EEF1A1/2 Antibody Human MCF7 IF. Immunofluorescent staining of human MCF7 cells with EEF1A1/2 antibody revealed abundant cytoplasmic staining with a finely punctate distribution consistent with the localization of eukaryotic elongation factor 1 alpha proteins involved in protein synthesis and translational control. EEF1A1 and EEF1A2 are highly conserved GTP-binding proteins that mediate aminoacyl-tRNA delivery to ribosomes and additionally participate in cytoskeletal organization and cellular stress responses. Green fluorescence indicates EEF1A1/2 expression, while nuclei are counterstained with DAPI (blue). The widespread cytoplasmic staining pattern is consistent with the abundant expression of eEF1A proteins and their essential roles in maintaining cellular growth and metabolism. These results support the utility of EEF1A1/2 Antibody for studies of protein synthesis, cell proliferation, and cancer biology.



EEF1A1/2 Antibody Human Brain IHC. IHC staining of FFPE human brain tissue with EEF1A1/2 antibody demonstrated strong cytoplasmic staining of neuronal cell bodies, consistent with the expression pattern of eukaryotic elongation factor 1 alpha proteins involved in translational control and cellular homeostasis. EEF1A1 and EEF1A2 are highly conserved GTP-binding proteins that mediate aminoacyl-tRNA delivery during protein synthesis, with EEF1A2 being particularly enriched in neurons and muscle tissue. The prominent neuronal staining observed is consistent with the high metabolic demands and protein synthesis requirements of the central nervous system. Heat-induced epitope retrieval was performed by steaming tissue sections in pH 6 citrate buffer for 20 minutes and allowing them to cool prior to immunostaining. These results support the utility of EEF1A1/2 Antibody for studies of neurobiology, protein synthesis, and cellular metabolism.



EEF1A1/2 Antibody Human NCI-H292 FACS. Flow cytometric analysis of EEF1A1/2 expression was performed using EEF1A1/2 antibody in human NCI-H292 cells. EEF1A1 and EEF1A2, also known as eukaryotic elongation factor 1 alpha proteins, are highly conserved translation factors that mediate aminoacyl-tRNA delivery during protein synthesis and additionally participate in cytoskeletal organization and stress responses. Blue = isotype control, Green = EEF1A1/2 antibody. A distinct rightward shift of the EEF1A1/2 antibody histogram relative to the isotype control demonstrates specific detection of EEF1A1/2 expression in NCI-H292 cells. These results support the utility of EEF1A1/2 Antibody for studies of translational regulation, cellular metabolism, and cancer biology.

Description

EEF1A1/2 Antibody / Translation Elongation Factor Antibody recognizes eukaryotic elongation factor 1 alpha proteins encoded by EEF1A1 and EEF1A2, highly conserved GTP-binding proteins that play essential roles in protein synthesis. During translation elongation, eEF1A proteins deliver aminoacyl-tRNAs to the ribosome, ensuring accurate and efficient incorporation of amino acids into growing polypeptide chains. EEF1A1 is widely expressed in most tissues, whereas EEF1A2 is enriched in neurons, skeletal muscle, and cardiac muscle. Because of their abundance and evolutionary conservation, eEF1A proteins are among the most extensively studied components of the translational machinery. EEF1A1/2 Antibody / Translation Elongation Factor Antibody provides a valuable tool for investigating these fundamental regulators of cellular protein synthesis.

Beyond their canonical role in translation, eEF1A proteins possess numerous nontraditional functions that influence cytoskeletal organization, intracellular trafficking, signal transduction, and apoptosis. eEF1A interacts with actin filaments and microtubules, contributing to maintenance of cellular architecture and regulation of cell motility. Additional studies have implicated eEF1A proteins in autophagy, oxidative stress responses, and protein quality control pathways. Because of these diverse activities, EEF1A1/2 Antibody / Translation Elongation Factor Antibody is useful for examining processes extending far beyond ribosomal elongation and translational control.

Altered expression of EEF1A1 and EEF1A2 has been associated with numerous human diseases. Overexpression of EEF1A2 has been reported in breast, ovarian, pancreatic, lung, and prostate cancers, where it contributes to increased proliferation, resistance to apoptosis, and metastatic potential. Mutations affecting EEF1A2 have also been linked to epilepsy, intellectual disability, and neurodevelopmental disorders. In addition, eEF1A proteins are exploited by many RNA viruses to facilitate replication and protein synthesis. These observations have established EEF1A proteins as important mediators of cancer biology, neurological disease, and host-pathogen interactions. EEF1A1/2 Antibody / Translation Elongation Factor Antibody is therefore relevant to a broad spectrum of biomedical research areas.

EEF1A1/2 Antibody / Translation Elongation Factor Antibody is particularly useful for studies of protein synthesis, translational regulation, cellular metabolism, cytoskeletal dynamics, stress responses, neurobiology, and cancer. Its ability to detect both EEF1A1 and EEF1A2 isoforms makes it valuable for characterizing tissue-specific expression patterns and investigating mechanisms governing cell growth, survival, and differentiation. EEF1A1/2 Antibody / Translation Elongation Factor Antibody supports research spanning normal physiology, developmental biology, and human disease.

Learn more about proteins involved in translation, cytoskeletal regulation, and cellular homeostasis in our Cell Biology Antibodies page.

Application Notes

The stated application concentrations are suggested starting points. Titration of the EEF1A1/2 Antibody / Translation Elongation Factor Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 361-389 from the human EEF1A1 protein was used as the immunogen for the EEF1A1/2 antibody.

Storage

Aliquot the EEF1A1/2 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

EEF1A1/2 antibody, eEF1A antibody, Elongation Factor 1 Alpha antibody, Translation Elongation Factor antibody, EF-1 Alpha antibody, GTP-Binding Translation Factor antibody, Protein Synthesis Factor antibody

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