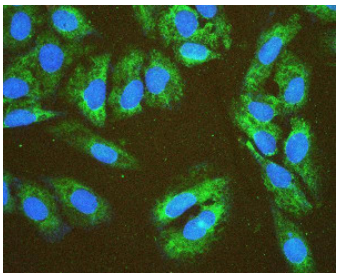
EIF4G1 Antibody (RQ5515)

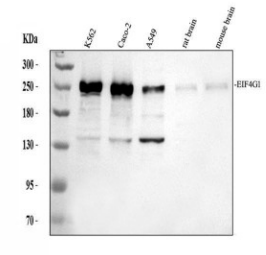
Catalog No.	Formulation	Size
RQ5515	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

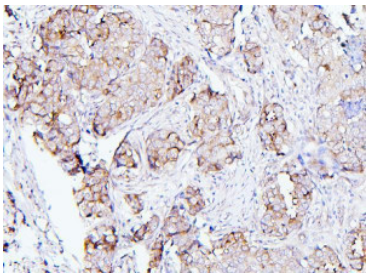
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q04637
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml Immunofluorescence : 2-4ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml
Limitations	This EIF4G1 antibody is available for research use only.



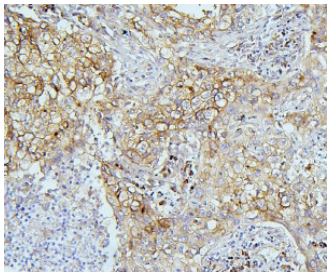
EIF4G1 Antibody Human U2OS Cell IF. Immunofluorescent staining of U2OS cells using EIF4G1 antibody demonstrated prominent cytoplasmic fluorescence (green), consistent with the localization of EIF4G1 as a translation initiation factor involved in mRNA translation and protein synthesis. Cells were treated with enzyme antigen retrieval reagent for 15 minutes, blocked with 10% goat serum, and incubated with the primary antibody (2 ug/ml) overnight at 4Â°C. DyLight 488-conjugated goat anti-rabbit IgG was used as the secondary antibody, and nuclei were counterstained with DAPI (blue). This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating translational control, protein synthesis, and subcellular localization of translation initiation complexes.



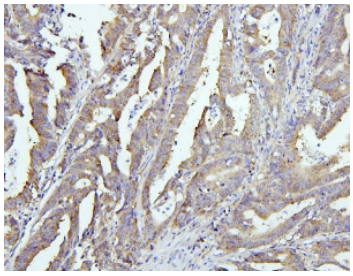
EIF4G1 Antibody Human, Rat and Mouse WB. Western blot testing of human K562 (lane 1), CACO-2 (lane 2), A549 (lane 3), rat brain (lane 4), and mouse brain (lane 5) lysates using EIF4G1 antibody detected a prominent band at approximately 250 kDa. Although the calculated molecular weight of EIF4G1 is approximately 175 kDa, the protein commonly migrates at a substantially higher apparent molecular weight because of its large size, extended structure, and post-translational modifications. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating translational control, protein synthesis, and mRNA translation.



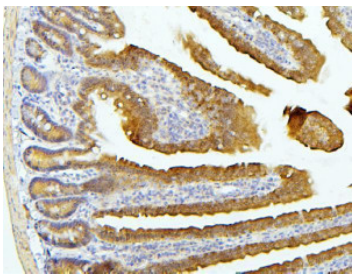
EIF4G1 Antibody Human Breast Cancer IHC. Immunohistochemical staining of FFPE human breast cancer tissue using EIF4G1 antibody demonstrated strong cytoplasmic staining in malignant epithelial cells, consistent with the role of EIF4G1 as a translation initiation factor that regulates protein synthesis. Heat-induced epitope retrieval was performed in pH6 citrate buffer for 20 minutes prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (1 ug/ml) overnight at 4Â°C, followed by a biotinylated goat anti-rabbit IgG secondary antibody and Streptavidin-Biotin Complex (SABC) detection with DAB as the chromogen. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating translational control, protein synthesis, oncogenic signaling, and breast cancer biology.



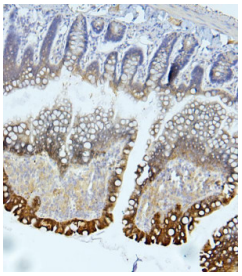
EIF4G1 Antibody Human Lung Cancer IHC. Immunohistochemical staining of FFPE human lung cancer tissue using EIF4G1 antibody demonstrated strong cytoplasmic staining in malignant cells, consistent with the role of EIF4G1 as a translation initiation factor that regulates protein synthesis. Heat-induced epitope retrieval was performed in pH6 citrate buffer for 20 minutes prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (1 ug/ml) overnight at 4Â°C, followed by a biotinylated goat anti-rabbit IgG secondary antibody and Streptavidin-Biotin Complex (SABC) detection with DAB as the chromogen. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating translational control, mRNA translation, oncogenic signaling, and lung cancer biology.



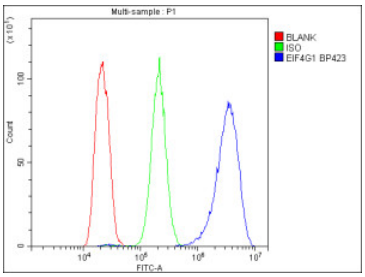
EIF4G1 Antibody Human Intestinal Cancer IHC. Immunohistochemical staining of FFPE human intestinal cancer tissue using EIF4G1 antibody demonstrated predominantly cytoplasmic staining in malignant epithelial cells, consistent with the role of EIF4G1 as a translation initiation factor involved in protein synthesis. Heat-induced epitope retrieval was performed in pH6 citrate buffer for 20 minutes prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (1 ug/ml) overnight at 4Â°C, followed by a biotinylated goat anti-rabbit IgG secondary antibody and Streptavidin-Biotin Complex (SABC) detection with DAB as the chromogen. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating mRNA translation, protein synthesis, oncogenic signaling, and cancer biology.



EIF4G1 Antibody Mouse Intestine IHC. Immunohistochemical staining of mouse intestine tissue using EIF4G1 antibody demonstrated prominent cytoplasmic staining of intestinal epithelial cells, consistent with the role of EIF4G1 as a translation initiation factor that supports active protein synthesis in rapidly renewing tissues. Heat-induced epitope retrieval was performed in pH6 citrate buffer for 20 minutes prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (1 ug/ml) overnight at 4Â°C, followed by a biotinylated goat anti-rabbit IgG secondary antibody and Streptavidin-Biotin Complex (SABC) detection with DAB as the chromogen. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating mRNA translation, protein synthesis, intestinal biology, and translational control.



EIF4G1 Antibody Rat Intestine IHC. Immunohistochemical staining of rat intestine tissue using EIF4G1 antibody demonstrated prominent cytoplasmic staining of intestinal epithelial cells, particularly within the mucosal lining and crypt epithelium, consistent with the role of EIF4G1 as a translation initiation factor supporting active protein synthesis. Heat-induced epitope retrieval was performed in pH6 citrate buffer for 20 minutes prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (1 ug/ml) overnight at 4Â°C, followed by a biotinylated goat anti-rabbit IgG secondary antibody and Streptavidin-Biotin Complex (SABC) detection with DAB as the chromogen. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating mRNA translation, protein synthesis, intestinal physiology, and translational control.



EIF4G1 Antibody Human Liver Cancer Cell FACS. Flow cytometry analysis of fixed and permeabilized human HepG2 cells using EIF4G1 antibody demonstrated a marked rightward shift of the stained population (blue) compared with the isotype control (green), indicating specific intracellular detection of EIF4G1. Cells were fixed with 4% paraformaldehyde, permeabilized, blocked with 10% normal goat serum, and incubated with the primary antibody (1 ug/1Ã—10^6 cells) followed by DyLight 488-conjugated goat anti-rabbit IgG. The red histogram represents the unstained blank control. This EIF4G1 Antibody, also called a Translation Initiation Factor Antibody, is useful for investigating translational control, protein synthesis, and EIF4G1 expression by flow cytometry.

Description

EIF4G1 Antibody / Translation Initiation Factor Antibody recognizes EIF4G1, also known as Eukaryotic Translation Initiation Factor 4 Gamma 1, a large scaffold protein that plays a central role in cap-dependent mRNA translation. EIF4G1 serves as the structural backbone of the eIF4F translation initiation complex by interacting with eIF4E, eIF4A, poly(A)-binding protein, and additional translation factors. Through these interactions, EIF4G1 promotes recruitment of the small ribosomal subunit to messenger RNA and facilitates efficient translation initiation. Because protein synthesis is tightly linked to cellular growth, proliferation, and stress responses, EIF4G1 is a critical regulator of gene expression in both normal and diseased cells.

EIF4G1 coordinates multiple stages of translation initiation by bringing together translation factors, ribosomal components, and messenger RNA into a functional pre-initiation complex. In addition to promoting cap-dependent translation, EIF4G1 contributes to selective translation of transcripts involved in cell survival, metabolism, and proliferation. Its activity is regulated by signaling pathways including mechanistic target of rapamycin (mTOR), which controls protein synthesis in response to nutrients, growth factors, and cellular energy status. During cellular stress, viral infection, or apoptosis, EIF4G1 function may be altered through proteolytic cleavage or changes in translation complex assembly, resulting in selective modulation of protein production.

Dysregulated EIF4G1 expression has been associated with numerous human diseases, particularly cancer and neurodegenerative disorders. Increased EIF4G1 expression has been reported in colorectal, breast, lung, prostate, and other malignancies, where enhanced translation initiation supports tumor growth, metabolic reprogramming, and resistance to therapy. Rare inherited variants in EIF4G1 have also been investigated in familial Parkinson disease and related neurodegenerative conditions, although their pathogenic significance remains an area of active research. Owing to its central role in regulating protein synthesis, EIF4G1 has become an important target in studies of translational control, oncogenic signaling, cellular stress responses, and therapeutic intervention.

EIF4G1 is widely expressed in proliferating and metabolically active tissues, making it an important target for studies of translational regulation, cell growth, and disease. Altered EIF4G1 expression and activity have been implicated in numerous cancers as well as neurodegenerative disorders, reflecting its central role in controlling protein synthesis and cellular homeostasis. This rabbit polyclonal antibody was developed for specific detection of EIF4G1 in research

applications. An EIF4G1 Antibody is a valuable research tool for investigating translation initiation, protein synthesis, translational control, and diseases associated with dysregulated mRNA translation.

Explore additional research tools for oncogenic signaling, translational regulation, and tumor biology on our Cancer Marker Antibodies page.

Application Notes

Optimal dilution of the EIF4G1 antibody should be determined by the researcher.

Immunogen

Human recombinant proteins (amino acids Q497-R681 + E1409-L1515) were used as the immunogen for the EIF4G1 antibody.

Storage

After reconstitution, the EIF4G1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.