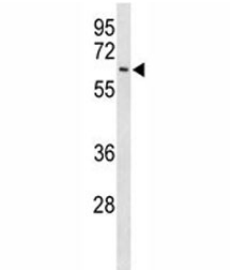
EIF2A Rabbit Polyclonal Antibody / Eukaryotic translation initiation factor 2A (F51764)

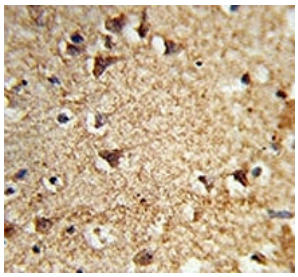
Catalog No.	Formulation	Size
F51764-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F51764-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

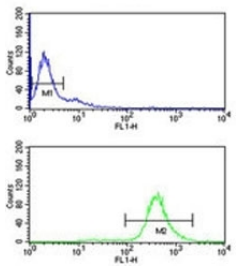
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	Q9BY44
Localization	Cytoplasmic
Applications	Western blot: 1:1000 IHC (Paraffin): 1:50-1:100 Flow Cytometry: 1:10-1:50
Limitations	This EIF2A antibody is available for research use only.



EIF2A Rabbit Polyclonal Antibody WB Analysis of Human Ramos Cells. Western blot analysis of human Ramos cell lysate using Eukaryotic Initiation Factor 2A Antibody. An immunoreactive band is detected between the 55 and 72 kDa molecular weight markers, within the expected molecular weight range of EIF2A.



EIF2A Rabbit Polyclonal Antibody IHC Analysis of Human Brain Tissue. Immunohistochemical analysis of formalin-fixed, paraffin-embedded human brain tissue using Eukaryotic Initiation Factor 2A Antibody. Brown DAB staining is observed throughout the tissue, including prominent staining in neuronal cell bodies and surrounding neuropil. Hematoxylin provides nuclear counterstaining.



EIF2A Rabbit Polyclonal Antibody FACS Staining of Human Ramos Cells. Flow cytometry analysis of human Ramos cells using Eukaryotic Initiation Factor 2A Antibody, followed by an FITC-conjugated goat anti-rabbit secondary antibody. The antibody-stained population (bottom histogram, green) demonstrates a pronounced rightward fluorescence shift compared with the negative control (top histogram, blue), indicating EIF2A immunoreactivity in the tested cells.

Description

EIF2A Rabbit Polyclonal Antibody / Eukaryotic Initiation Factor 2A Antibody recognizes eukaryotic translation initiation factor 2A (EIF2A), a protein involved in specialized mechanisms of translation initiation and the regulation of protein synthesis. EIF2A participates in alternative initiation pathways that differ from those mediated by the canonical eukaryotic initiation factor 2 complex. Despite their similar names, EIF2A and the alpha subunit of eIF2, encoded by EIF2S1, are distinct proteins with different molecular functions. EIF2A has been implicated in the recruitment of initiator methionyl-tRNA to ribosomal subunits during selected translation initiation events.

Translation initiation is a major regulatory step in gene expression, determining when and where messenger RNAs are translated into proteins. Under conventional conditions, the eIF2 complex delivers initiator methionyl-tRNA to the small ribosomal subunit through a GTP-dependent mechanism. EIF2A has been associated with an alternative, codon-dependent mechanism of initiator tRNA recruitment. This activity may contribute to translation of particular messenger RNAs that use specialized initiation signals or unconventional start codons.

The importance of alternative translation mechanisms becomes especially apparent during cellular stress. Environmental challenges, nutrient limitation, and disturbances in protein folding can activate signaling pathways that suppress general protein synthesis. Phosphorylation of the canonical eIF2 alpha subunit reduces conventional initiation while permitting selective translation of certain regulatory transcripts. EIF2A has been investigated as a potential contributor to specialized translation events under these conditions, although its involvement depends on the cellular context and the characteristics of individual transcripts.

Studies of EIF2A have also contributed to understanding non-AUG translation initiation, including initiation at selected CUG codons. Such mechanisms can expand the repertoire of proteins produced from a transcript and influence cellular adaptation to changing conditions. However, EIF2A is not required for every alternative initiation event, and its precise contribution remains an active area of investigation.

Understanding EIF2A function is relevant to translational control, ribosome biology, stress adaptation, and the regulation of protein expression. EIF2A Rabbit Polyclonal Antibody provides a means of examining this translation factor in studies investigating how cells maintain selective protein synthesis when conventional initiation mechanisms are altered.

Additional EIF2A antibody formats and validation data are available on our main EIF2A Antibody page.

Application Notes

Titration of the EIF2A antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 437-465 from the human protein was used as the immunogen for this EIF2A antibody.

Storage

Aliquot the EIF2A antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Eukaryotic translation initiation factor 2A antibody, Eukaryotic initiation factor 2A antibody, eIF2A protein antibody, Translation initiation factor 2A antibody, EIF2A polyclonal antibody

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