

eIF4A3 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP55620

Specification

eIF4A3 Polyclonal Antibody - Product Information

Application WB, IHC-P, IHC-F, IF, ICC, E

Primary Accession <u>P38919</u>

Reactivity Rat, Dog, Bovine

Host Rabbit
Clonality Polyclonal
Calculated MW 47 KDa
Physical State Liquid

Immunogen KLH conjugated synthetic peptide derived

from human eIF4A3

Epitope Specificity 351-411/411

Isotype IgG
Purity

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nucleus . Nucleus speckle. Cytoplasm.

Nucleocytoplasmic shuttling protein. Travels to the cytoplasm as part of the exon junction complex (EJC) bound to mRNA. Detected in dendritic layer as well as the nuclear and cytoplasmic (somatic) compartments of neurons. Colocalizes with

STAU1 and FMR1 in dendrites.

SIMILARITY

Belongs to the DEAD box helicase family.
eIF4A subfamily. Contains 1 helicase

ATP-binding domain. Contains 1 helicase

C-terminal domain.

Important Note

This product as supplied is intended for research use only, not for use in human.

therapeutic or diagnostic applications.

Background Descriptions

affinity purified by Protein A

This gene encodes a member of the DEAD box protein family. DEAD box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp (DEAD), are putative RNA helicases. They are implicated in a number of cellular processes involving alteration of RNA secondary structure, such as translation initiation, nuclear and mitochondrial splicing, and ribosome and spliceosome assembly. Based on their distribution patterns, some members of this family are believed to be involved in embryogenesis, spermatogenesis, and cellular growth and division. The protein encoded by this gene is a nuclear matrix protein. Its amino acid sequence is highly similar to the amino acid sequences of the translation initiation factors elF4Al and elF4All, two other members of the DEAD box protein family. [provided by RefSeq, Jul 2008]

eIF4A3 Polyclonal Antibody - Additional Information



Gene ID 9775

Other Names

Eukaryotic initiation factor 4A-III, eIF-4A-III, eIF4A-III, 3.6.4.13, ATP-dependent RNA helicase DDX48, ATP-dependent RNA helicase eIF4A-3, DEAD box protein 48, Eukaryotic initiation factor 4A-like NUK-34, Eukaryotic translation initiation factor 4A isoform 3, Nuclear matrix protein 265, NMP 265, hNMP 265, Eukaryotic initiation factor 4A-III, N-terminally processed, EIF4A3, DDX48, KIAA0111

Target/Specificity

Ubiquitously expressed.

Dilution

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<span class ="dilution_WB">WB~~1:1000</span><br \><span class
="dilution_IHC-P">IHC-P~~N/A</span><br \><span class
="dilution_IHC-F">IHC-F~~N/A</span><br \><span class
="dilution_IF">IF~~1:50~200</span><br \><span class ="dilution_ICC">ICC~~N/A</span><br \><span class ="dilution_E">E~~N/A</span>
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Storage

Store at -20 $^{\circ}$ C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 $^{\circ}$ C.

eIF4A3 Polyclonal Antibody - Protein Information

Name EIF4A3

Synonyms DDX48, KIAA0111

Function

ATP-dependent RNA helicase (PubMed: 16170325). Involved in pre-mRNA splicing as component of the spliceosome (PubMed:11991638, PubMed: 22961380, PubMed:28076346, PubMed:28502770, PubMed:28502770, PubMed:29301961). Core component of the splicing-dependent multiprotein exon junction complex (EJC) deposited at splice junctions on mRNAs (PubMed: 16170325, PubMed:16209946, PubMed:16314458, PubMed:16923391, PubMed:16931718, PubMed:19033377, PubMed:20479275). The EJC is a dynamic structure consisting of core proteins and several peripheral nuclear and cytoplasmic associated factors that join the complex only transiently either during EJC assembly or during subsequent mRNA metabolism. The EJC marks the position of the exon-exon junction in the mature mRNA for the gene expression machinery and the core components remain bound to spliced mRNAs throughout all stages of mRNA metabolism thereby influencing downstream processes including nuclear mRNA export, subcellular mRNA localization, translation efficiency and nonsense- mediated mRNA decay (NMD). Its RNA-dependent ATPase and RNA-helicase activities are induced by CASC3, but abolished in presence of the MAGOH-RBM8A heterodimer, thereby trapping the ATP-bound EJC core onto spliced mRNA in a stable conformation. The inhibition of ATPase activity by the MAGOH-RBM8A heterodimer





increases the RNA-binding affinity of the EJC. Involved in translational enhancement of spliced mRNAs after formation of the 80S ribosome complex. Binds spliced mRNA in sequence-independent manner, 20-24 nucleotides upstream of mRNA exon-exon junctions. Shows higher affinity for single-stranded RNA in an ATP-bound core EJC complex than after the ATP is hydrolyzed. Involved in the splicing modulation of BCL2L1/Bcl-X (and probably other apoptotic genes); specifically inhibits formation of proapoptotic isoforms such as Bcl-X(S); the function is different from the established EJC assembly (PubMed:<a

 $href="http://www.uniprot.org/citations/22203037" target="_blank">22203037). Involved in craniofacial development (PubMed:24360810).$

Cellular Location

Nucleus. Nucleus speckle. Cytoplasm {ECO:0000250|UniProtKB:Q3B8Q2}.

Note=Nucleocytoplasmic shuttling protein. Travels to the cytoplasm as part of the exon junction complex (EJC) bound to mRNA. Detected in dendritic layer as well as the nuclear and cytoplasmic (somatic) compartments of neurons. Colocalizes with STAU1 and FMR1 in dendrites (By similarity) {ECO:0000250|UniProtKB:Q3B8Q2}

Tissue Location

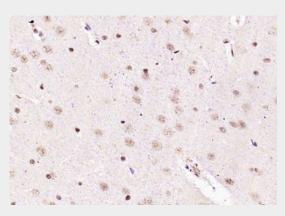
Ubiquitously expressed.

eIF4A3 Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

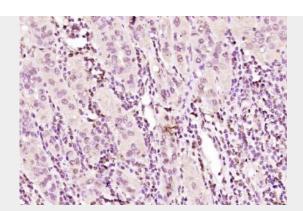
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

eIF4A3 Polyclonal Antibody - Images



Paraformaldehyde-fixed, paraffin embedded (rat brain tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (eIF4A3) Polyclonal Antibody, Unconjugated (bs-14548R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining

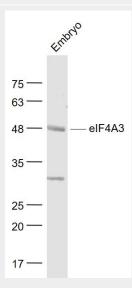




Paraformaldehyde-fixed, paraffin embedded (human liver carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (eIF4A3) Polyclonal Antibody, Unconjugated (bs-14548R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (mouse embryos tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (eIF4A3) Polyclonal Antibody, Unconjugated (bs-14548R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Sample:

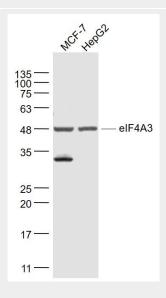
Embryo (Mouse) Lysate at 40 ug

Primary: Anti- eIF4A3 (bs-14548R) at 1/1000 dilution



Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 47 kD Observed band size: 47 kD



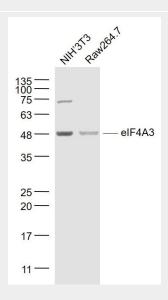
Sample:

MCF-7(Human) Cell Lysate at 30 ug HepG2(Human) Cell Lysate at 30 ug

Primary: Anti- eIF4A3 (bs-14548R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 47 kD Observed band size: 47 kD



Sample:

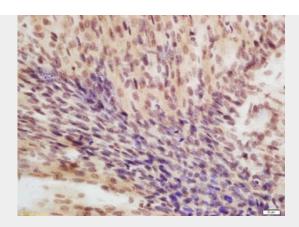
NIH/3T3(Mouse) Cell Lysate at 30 ug Raw264.7(Mouse) Cell Lysate at 30 ug

Primary: Anti- eIF4A3 (bs-14548R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 47 kD Observed band size: 47 kD





Tissue/cell: mouse embryo tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37° C for 20 min;

Incubation: Anti-eIF4A3 Polyclonal Antibody, Unconjugated(bs-14548R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining