

**EIF4E Antibody (Ascites)**  
**Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM1852a**

### Specification

#### EIF4E Antibody (Ascites) - Product Information

Application	FC, WB,E
Primary Accession	<a href="#">P06730</a>
Other Accession	<a href="#">NP_001959.1</a>
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,K

#### EIF4E Antibody (Ascites) - Additional Information

##### Gene ID 1977

##### Other Names

Eukaryotic translation initiation factor 4E, eIF-4E, eIF4E, eIF-4F 25 kDa subunit, mRNA cap-binding protein, EIF4E, EIF4EL1, EIF4F

##### Target/Specificity

This EIF4E monoclonal antibody is generated from mouse immunized with EIF4E recombinant protein.

##### Dilution

FC~~1:10~50

WB~~1:1000

E~~Use at an assay dependent concentration.

##### Format

Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.

##### Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

##### Precautions

EIF4E Antibody (Ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

#### EIF4E Antibody (Ascites) - Protein Information

**Name** EIF4E ([HGNC:3287](#))

**Synonyms** EIF4EL1, EIF4F

**Function** Acts in the cytoplasm to initiate and regulate protein synthesis and is required in the nucleus for export of a subset of mRNAs from the nucleus to the cytoplasm which promotes processes such as RNA capping, processing and splicing (PubMed:[11606200](#), PubMed:[22578813](#), PubMed:[22684010](#), PubMed:[24335285](#), PubMed:[29987188](#)). Component of the protein complex eIF4F, which is involved in the recognition of the mRNA cap, ATP-dependent unwinding of 5'-terminal secondary structure and recruitment of mRNA to the ribosome (By similarity). This protein recognizes and binds the 7-methylguanosine (m7G)-containing mRNA cap during an early step in the initiation of protein synthesis and facilitates ribosome binding by inducing the unwinding of the mRNAs secondary structures (PubMed:[16271312](#), PubMed:[22578813](#)). Together with EIF4G1, antagonizes the scanning promoted by EIF1-EIF4G1 and is required for TISU translation, a process where the TISU element recognition makes scanning unnecessary (PubMed:[29987188](#)). In addition to its role in translation initiation, also acts as a regulator of translation and stability in the cytoplasm (PubMed:[24335285](#)). Component of the CYFIP1-EIF4E-FMR1 complex which binds to the mRNA cap and mediates translational repression: in the complex, EIF4E mediates the binding to the mRNA cap (By similarity). Component of a multiprotein complex that sequesters and represses translation of proneurogenic factors during neurogenesis (By similarity). In P-bodies, component of a complex that mediates the storage of translationally inactive mRNAs in the cytoplasm and prevents their degradation (PubMed:[24335285](#)). May play an important role in spermatogenesis through translational regulation of stage-specific mRNAs during germ cell development (By similarity). As well as its roles in translation, also involved in mRNA nucleocytoplasmic transport (By similarity). Its role in mRNA export from the nucleus to the cytoplasm relies on its ability to bind the m7G cap of RNAs and on the presence of the 50-nucleotide EIF4E sensitivity element (4ESE) in the 3'UTR of sensitive transcripts (By similarity). Interaction with the 4ESE is mediated by LRPPRC which binds simultaneously to both EIF4E and the 4ESE, thereby acting as a platform for assembly for the RNA export complex (By similarity). EIF4E-dependent mRNA export is independent of ongoing protein or RNA synthesis and is also NFX1-independent but is XPO1-dependent with LRPPRC interacting with XPO1 to form an EIF4E- dependent mRNA export complex (By similarity). Alters the composition of the cytoplasmic face of the nuclear pore to promote RNA export by reducing RANBP2 expression, relocating nucleoporin NUP214 and increasing expression of RANBP1 and RNA export factors DDX19 and GLE1 (By similarity). Promotes the nuclear export of cyclin CCND1 mRNA (By similarity). Promotes the nuclear export of NOS2/iNOS mRNA (PubMed:[23471078](#)). Promotes the nuclear export of MDM2 mRNA (PubMed:[22684010](#)). Promotes the export of additional mRNAs, including others involved in the cell cycle (By similarity). In the nucleus, binds to capped splice factor-encoding mRNAs and stimulates their nuclear export to enhance splice factor production by increasing their cytoplasmic availability to the translation machinery (By similarity). May also regulate splicing through interaction with the spliceosome in an RNA and m7G cap-dependent manner (By similarity). Also binds to some pre-mRNAs and may play a role in their recruitment to the spliceosome (By similarity). Promotes steady-state capping of a subset of coding and non-coding RNAs by mediating nuclear export of capping machinery mRNAs including RNMT, RNGTT and RAMAC to enhance their translation (By similarity). Stimulates mRNA 3'-end processing by promoting the expression of several core cleavage complex factors required for mRNA cleavage and polyadenylation, and may also have a direct effect through its interaction with the CPSF3 cleavage enzyme (By similarity). Rescues cells from apoptosis by promoting activation of serine/threonine- protein kinase AKT1 through mRNA export of NBS1 which potentiates AKT1 phosphorylation and also through mRNA export of AKT1 effectors, allowing for increased production of these proteins (By similarity).

### Cellular Location

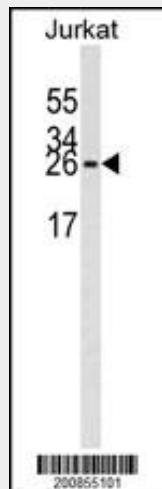
Cytoplasm, P-body. Cytoplasm. Cytoplasm, Stress granule. Nucleus. Nucleus speckle. Nucleus, nuclear body Note=Interaction with EIF4ENIF1/4E-T is required for localization to processing bodies (P-bodies) (PubMed:16157702, PubMed:[24335285](#), PubMed:25923732). Imported in the nucleus via interaction with EIF4ENIF1/4E-T via a piggy-back mechanism (PubMed:10856257) Sequestered in the nucleus by EIF4EBP1 and EIF4EBP2 (By similarity) {ECO:0000250|UniProtKB:P63073, ECO:0000269|PubMed:10856257, ECO:0000269|PubMed:16157702, ECO:0000269|PubMed:24335285, ECO:0000269|PubMed:25923732}

## EIF4E Antibody (Ascites) - Protocols

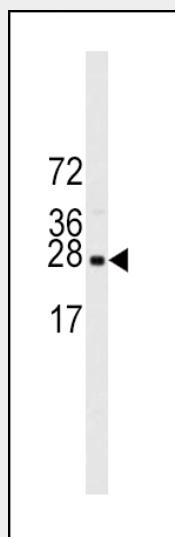
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

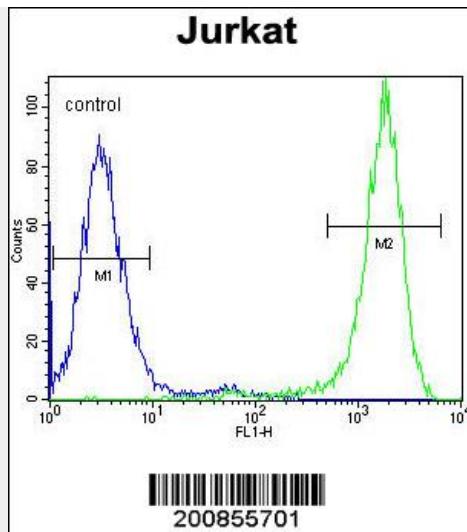
## EIF4E Antibody (Ascites) - Images



EIF4E Antibody (Cat. #AM1852a) western blot analysis in Jurkat cell line lysates (15 $\mu$ g/lane). This demonstrates the EIF4E antibody detected the EIF4E protein (arrow).



EIF4E Antibody (Cat. #AM1852a) western blot analysis in mouse NIH-3T3 cell line lysates (15 $\mu$ g/lane). This demonstrates the EIF4E antibody detected the EIF4E protein (arrow).



EIF4E Antibody (Cat. #AM1852a) flow cytometric analysis of Jurkat cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-mouse secondary antibodies were used for the analysis.

#### EIF4E Antibody (Ascites) - Background

EIF4E recognizes and binds the 7-methylguanosine-containing mRNA cap during an early step in the initiation of protein synthesis and facilitates ribosome binding by inducing the unwinding of the mRNAs secondary structures.

#### EIF4E Antibody (Ascites) - Citations

- [20\(s\)-Protopanaxadiol \(PPD\) increases the radiotherapy sensitivity of laryngeal carcinoma.](#)
- [A fine balance: Regulation of hippocampal Arc/Arg3.1 transcription, translation and degradation in a rat model of normal cognitive aging.](#)
- [Circadian proteins CLOCK and BMAL1 in the chromatoid body, a RNA processing granule of male germ cells.](#)
- [Inhibition of the interactions between eukaryotic initiation factors 4E and 4G impairs long-term associative memory consolidation but not reconsolidation.](#)