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EIF1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21971c

Product Information

Application	WB, E
Primary Accession	P41567
Other Accession	O60739, Q4R4X9, Q9CXU9, P61220, Q5E938, P51971, P48024, Q5RFF4
Reactivity	Human, Mouse
Predicted	Bovine, Chicken, Human, Mouse, Pig, Rat, Canine, Rabbit
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB54642
Calculated MW	12732

Additional Information

Gene ID	10209
Other Names	Eukaryotic translation initiation factor 1, eIF1, A121, Protein translation factor SUI1 homolog, Sui1iso1, EIF1, SUI1
Target/Specificity	This EIF1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 31-61 amino acids from the Central region of human EIF1.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	EIF1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EIF1
Synonyms	SUI1
Function	Component of the 43S pre-initiation complex (43S PIC), which binds to the

mRNA cap-proximal region, scans mRNA 5'-untranslated region, and locates the initiation codon (PubMed:12435632, PubMed:14600024, PubMed:9732867). Together with eIF1A (EIF1AX), EIF1 facilitates scanning and is essential for start codon recognition on the basis of AUG nucleotide context and location relative to the 5'-cap (PubMed:12435632, PubMed:14600024, PubMed:9732867). Participates to initiation codon selection by influencing the conformation of the 40S ribosomal subunit and the positions of bound mRNA and initiator tRNA; this is possible after its binding to the interface surface of the platform of the 40S ribosomal subunit close to the P-site (PubMed:14600024). Together with eIF1A (EIF1AX), also regulates the opening and closing of the mRNA binding channel, which ensures mRNA recruitment, scanning and the fidelity of initiation codon selection (PubMed:9732867). Continuously monitors and protects against premature and partial base-pairing of codons in the 5'-UTR with the anticodon of initiator tRNA (PubMed:12435632, PubMed:9732867). Together with eIF1A (EIF1AX), acts for ribosomal scanning, promotion of the assembly of 48S complex at the initiation codon (43S PIC becomes 48S PIC after the start codon is reached), and dissociation of aberrant complexes (PubMed:9732867). Interacts with EIF4G1, which in a mutual exclusive interaction associates either with EIF1 or with EIF4E on a common binding site (PubMed:29987188). EIF4G1-EIF1 complex promotes ribosome scanning (on both short and long 5'UTR), leaky scanning (on short 5'UTR) which is the bypass of the initial start codon, and discrimination against cap-proximal AUG (PubMed:29987188). Is probably maintained within the 43S PIC in open conformation thanks to eIF1A-EIF5 interaction (PubMed:24319994). Once the correct start codon is reached, EIF1 is physically excluded from the decoding site, shifting the PIC into the closed conformation and arresting it at the start codon (PubMed:22813744).

Cellular Location Cytoplasm.

Background

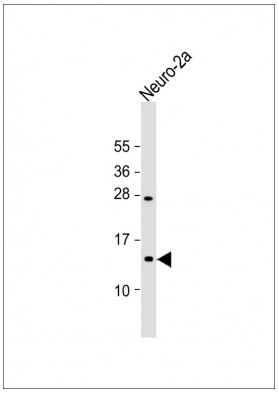
Necessary for scanning and involved in initiation site selection. Promotes the assembly of 48S ribosomal complexes at the authentic initiation codon of a conventional capped mRNA.

References

Fields C.A.,et al.Biochem. Biophys. Res. Commun. 198:288-291(1994).
Singh S.K.,et al.Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
Sheikh M.S.,et al.J. Biol. Chem. 274:16487-16493(1999).
Mendell J.T.,et al.Mol. Cell. Biol. 20:8944-8957(2000).
Gauci S.,et al.Anal. Chem. 81:4493-4501(2009).

Images

Anti-EIF1 Antibody (Center) at 1:2000 dilution + Neuro-2a whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 13 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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