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EIF5 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22055c

Product Information

Application	WB, E
Primary Accession	P55010
Other Accession	P59325, Q5R4L0, Q07205
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB55400
Calculated MW	49223

Additional Information

Gene ID	1983
Other Names	Eukaryotic translation initiation factor 5, eIF-5, EIF5
Target/Specificity	This EIF5 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 267-298 amino acids from the Central region of human EIF5.
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	EIF5 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EIF5
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:11166181, PubMed:22813744, PubMed:24319994). In this complex, acts as a GTPase- activating protein, by

promoting GTP hydrolysis by eIF2G (EIF2S3) (PubMed:11166181). During scanning, interacts with both EIF1 (via its C-terminal domain (CTD)) and EIF1A (via its NTD) (PubMed:22813744). This interaction with EIF1A contributes to the maintenance of EIF1 within the open 43S PIC (PubMed:24319994). When start codon is recognized, EIF5, via its NTD, induces eIF2G (EIF2S3) to hydrolyze the GTP (PubMed:11166181). Start codon recognition also induces a conformational change of the PIC to a closed state (PubMed:22813744). This change increases the affinity of EIF5-CTD for EIF2-beta (EIF2S2), which allows the release, by an indirect mechanism, of EIF1 from the PIC (PubMed:22813744). Finally, EIF5 stabilizes the PIC in its closed conformation (PubMed:22813744).

Cellular Location Cytoplasm.

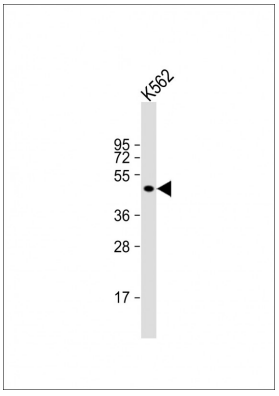
Background

Catalyzes the hydrolysis of GTP bound to the 40S ribosomal initiation complex (40S.mRNA.Met-tRNA[F].eIF-2.GTP) with the subsequent joining of a 60S ribosomal subunit resulting in the release of eIF-2 and the guanine nucleotide. The subsequent joining of a 60S ribosomal subunit results in the formation of a functional 80S initiation complex (80S.mRNA.Met-tRNA[F]).

References

Si K.,et al.J. Biol. Chem. 271:16934-16938(1996).
Wiemann S.,et al.Genome Res. 11:422-435(2001).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

Images



Anti-EIF5 Antibody (Center) at 1:2000 dilution + K562 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 : 49 kDa Blocking/Dilution buffer: 5% NFDM/TBST.