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eIF2α Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52859

Specification

eIF2α Antibody - Product Information

Application	**WB**
Primary Accession	P05198
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2b**
Calculated MW	**38 KDa**

eIF2α Antibody - Additional Information

Gene ID 1965

Other Names
Dmel\CG6376 ;Dmel_CG6376 ;drosE2F1 ;E(Sev-CycE)3A ;E(var)3-93E ;E2-promoter binding facto ;E2F 1 ;E2F transcription factor 1 ;E2F-1 ;E2f-PA ;E2f-PB ;E2f-PC ;E2F1 ;E2f1 E2F transcription factor 1 ;E2F1_HUMAN ;Evar(3)164 ;KIAA4009 ;l(3)07172 ;l(3)j3B1 ;l(3)j3C2 ;l(3)rM729 ;mKIAA4009 ;OTTHUMP00000030661 ;PBR3 ;PRB binding protein E2F 1 ;PRB-binding protein E2F-1 ;RBAP 1 ;RBAP-1 ;RBAP1 ;RBBP-3 ;RBBP3 ;RBP 3 ;RBP3 ;Retinoblastoma-associated protein 1 ;Retinoblastoma-binding protein 3 ;Transcription factor E2F1.

Format
PBS(pH 7.4) containing with 0.09% (W/V) sodium azide and 50% glycerol.

Storage
Store at -20 °C.Stable for 12 months from date of receipt

eIF2α Antibody - Protein Information

Name EIF2S1 (HGNC:3265)

Synonyms EIF2A

Function
Member of the eIF2 complex that functions in the early steps of protein synthesis by forming a ternary complex with GTP and initiator tRNA (PubMed:16289705, PubMed:38340717). This complex binds to a 40S ribosomal subunit, followed by mRNA binding to form a 43S pre- initiation complex (43S PIC) (PubMed:16289705). Junction of the 60S ribosomal subunit to form the 80S initiation complex is preceded by hydrolysis of the GTP bound to eIF2 and release of an eIF2-GDP binary complex (PubMed:<a href="http://www.uniprot.org/citations/16289705"

target="_blank">16289705). In order for eIF2 to recycle and catalyze another round of initiation, the GDP bound to eIF2 must exchange with GTP by way of a reaction catalyzed by eIF2B (PubMed:16289705). EIF2S1/eIF2-alpha is a key component of the integrated stress response (ISR), required for adaptation to various stress: phosphorylation by metabolic-stress sensing protein kinases (EIF2AK1/HRI, EIF2AK2/PKR, EIF2AK3/PERK and EIF2AK4/GCN2) in response to stress converts EIF2S1/eIF2-alpha in a global protein synthesis inhibitor, leading to an attenuation of cap-dependent translation, while concomitantly initiating the preferential translation of ISR-specific mRNAs, such as the transcriptional activators ATF4 and QRICH1, and hence allowing ATF4- and QRICH1-mediated reprogramming (PubMed:19131336, PubMed:33384352, PubMed:38340717). EIF2S1/eIF2-alpha also acts as an activator of mitophagy in response to mitochondrial damage: phosphorylation by EIF2AK1/HRI promotes relocalization to the mitochondrial surface, thereby triggering PRKN-independent mitophagy (PubMed:38340717).

Cellular Location
Cytoplasm, Stress granule {ECO:0000250|UniProtKB:Q6ZWX6}. Cytoplasm, cytosol {ECO:0000250|UniProtKB:P56286}. Mitochondrion. Note=Colocalizes with NANOS3 in the stress granules (By similarity). Relocalizes to the surface of mitochondria in response to mitochondrial damage and phosphorylation by EIF2AK1/HRI (PubMed:38340717). {ECO:0000250|UniProtKB:Q6ZWX6, ECO:0000269|PubMed:38340717}

eIF2α Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

eIF2α Antibody - Images

eIF2α Antibody - Background

Functions in the early steps of protein synthesis by forming a ternary complex with GTP and initiator tRNA. This complex binds to a 40S ribosomal subunit, followed by mRNA binding to form a 43S preinitiation complex. Junction of the 60S ribosomal subunit to form the 80S initiation complex is preceded by hydrolysis of the GTP bound to eIF-2 and release of an eIF-2-GDP binary complex. In order for eIF-2 to recycle and catalyze another round of initiation, the GDP bound to eIF-2 must exchange with GTP by way of a reaction catalyzed by eIF-2B.

eIF2α Antibody - References

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