

Phospho-eIF2A (Ser51) Rabbit mAb
Catalog # AP74973**Specification****Phospho-eIF2A (Ser51) Rabbit mAb - Product Information**

Application	WB
Primary Accession	P05198
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	36112

Phospho-eIF2A (Ser51) Rabbit mAb - Additional Information

Gene ID 1965

Other Names

EIF2S1

Dilution

WB~~1/500-1/1000

Format

Liquid

Phospho-eIF2A (Ser51) Rabbit mAb - Protein InformationName 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](http://www.uniprot.org/citations/16289705), PubMed: [38340717](http://www.uniprot.org/citations/38340717)). This complex binds to a 40S ribosomal subunit, followed by mRNA binding to form a 43S pre- initiation complex (43S PIC) (PubMed: [16289705](http://www.uniprot.org/citations/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: [16289705](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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 relocation 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}

Phospho-eIF2A (Ser51) Rabbit mAb - 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](#)

Phospho-eIF2A (Ser51) Rabbit mAb - Images

