SunLong Biotech Co.,LTD
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Mouse Anti-EIF2S1 antibody

SLM-51644M

Product Name	EIF2S1
Chinese Name	EIF2S1 单克隆抗体
Alias	EIF2A; CDA 02; CDA02; eIF 2 alpha; EIF 2; EIF 2A; EIF-2alpha; EIF2; EIF2alpha; Eukaryotic Translation Initiation Factor 2 alpha; Eukaryotic translation initiation factor 2 subunit 1 alpha 35kDa; Eukaryotic translation initiation factor 2 subunit alpha; IF2A_HUMAN; eIF2α.
Research Area	Tumour Cell biology Developmental biology Signal transduction Apoptosis transcriptional regulatory factor Kinases and Phosphatases
Immunogen Species	Mouse
Clonality	Monoclonal
Clone NO.	B5Y8
React Species	Human, Mouse, Rat,
Applications	WB=1:500-2000,IHC-P=1:200-1000,IHC-F=1:200-1000,IF=1:200-1000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	65kDa
Cellular localization	cytoplasmic
Form	Liquid
Concentration	1mg/ml
immunogen	Recombinant human EIF2A.
Lsotype	IgG2b,k
Purification	affinity purified by Protein G
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300.
Storage	Store at 2-8℃ for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
PubMed	PubMed
Product Detail	eIF2 alpha is a 36 kDa protein which is ubiquitously expressed in many cell

types. The eIF2 protein, which is composed of three subunits (alpha, beta and gamma), is one of the key molecules in the initiation of translation. In mammalian cells, eIF2 alpha is phosphorylated at serine 51 (human EIF2 alpha, the equivalent residue in mouse is serine 52) by at least two kinases: the haem-controlled repressor (HCR) and the interferon inducible double stranded RNA-dependent protein kinase (PKR). Phosphorylation of eIF2 alpha blocks the GDP-GTP exchange activity of eIF2 beta, resulting in the suppression of protein synthesis. The phosphorylation of eIF2 alpha is an important regulatory process in protein synthesis.

Function:
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.

Subunit:
Heterotrimer composed of an alpha, a beta and a gamma chain. Component of an EIF2 complex at least composed of CELF1/CUGBP1, CALR, CALR3, EIF2S1, EIF2S2, HSP90B1 and HSPA5. Interaction with METAP2 protects EIF2S1 from inhibitory phosphorylation. Interacts with ABCF1 isoform 2. Associates with ribosomes.

Subcellular Location:
Cytoplasmic granule. Note=The cytoplasmic granules are stress granules which are a dense aggregation in the cytosol composed of proteins and RNAs that appear when the cell is under stress. Co-localizes with NANOS3 in the stress granules.

Post-translational modifications:
Substrate for at least 4 kinases: EIF2AK3/PERK, GCN2, HRI and PKR. Phosphorylation stabilizes the eIF-2/GDP/eIF-2B complex and prevents GDP/GTP exchange reaction, thus impairing the recycling of eIF-2 between successive rounds of initiation and leading to global inhibition of translation. In case of infection by vaccinia virus or rotavirus A, eIF2S1 phosphorylation state is modulated.

Similarity:
Belongs to the eIF-2-alpha family.
Contains 1 S1 motif domain.

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SWISS:
P05198

Gene ID:
1965

Database links:

Entrez Gene: 1965 Human

Entrez Gene: 13665 Mouse

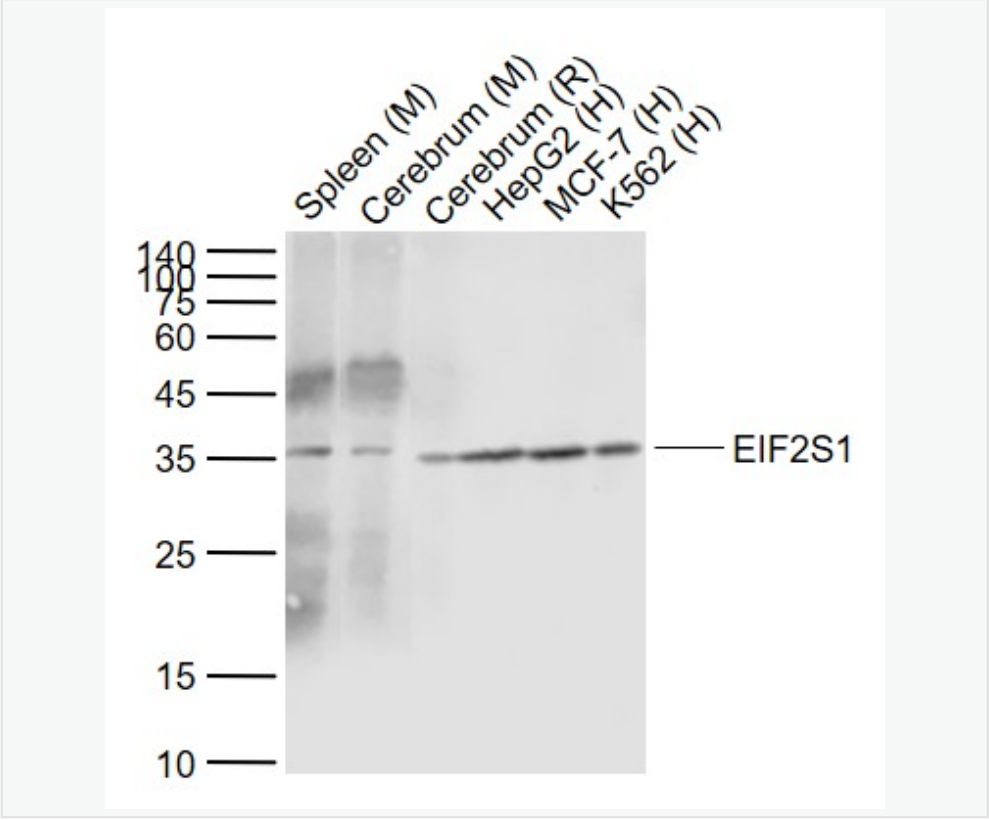
Entrez Gene: 54318 Rat

SwissProt: P05198 Human

SwissProt: Q6ZWX6 Mouse

SwissProt: P68101 Rat

Product Picture



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Sample:

Lane 1: Mouse Spleen tissue lysates

Lane 2: Mouse Cerebrum tissue lysates

Lane 3: Rat Cerebrum tissue lysates

Lane 4: Human HepG2 cell lysates

Lane 5: Human MCF-7 cell lysates

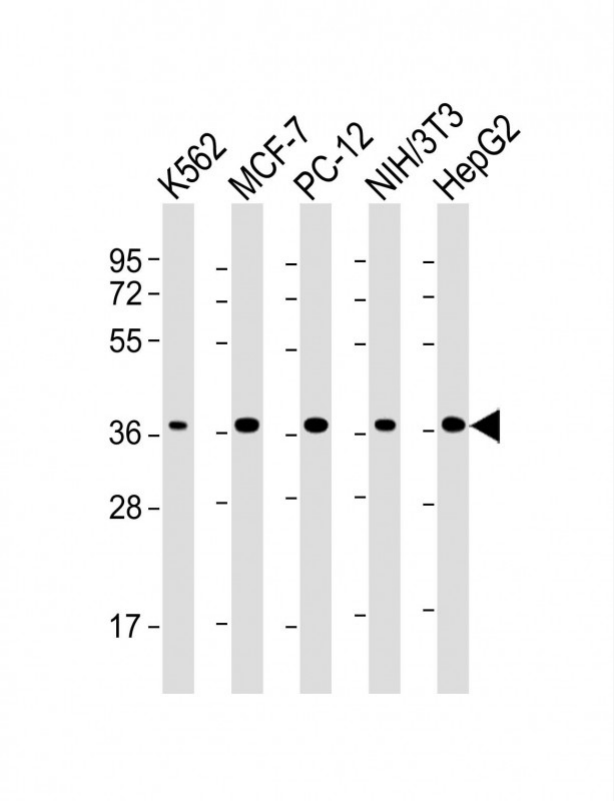
Lane 6: Human K562 cell lysates

Primary: Anti-EIF2S1 (SLM-51644M) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution

Predicted band size: 65 kD

Observed band size: 36 kD



Sample:

Lane 1: K562 cell lysates

Lane 2: MCF-7 cell lysates

Lane 3: PC-12 cell lysates

Lane 4: NIH/3T3 cell lysates

Lane 5: HepG2 cell lysates

Primary: Anti-EIF2S1 (SLM-51644M) at 1/2000 dilution

Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution

Predicted band size: 65 kD

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Observed band size: 37 kD