# Phospho-EIF2S1 (S51) Recombinant Monoclonal Antibody

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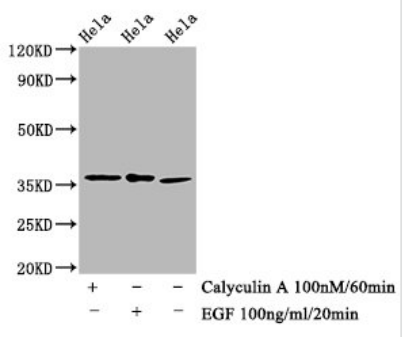
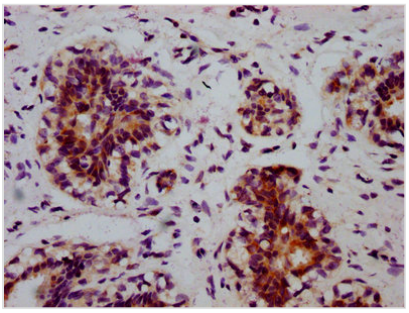
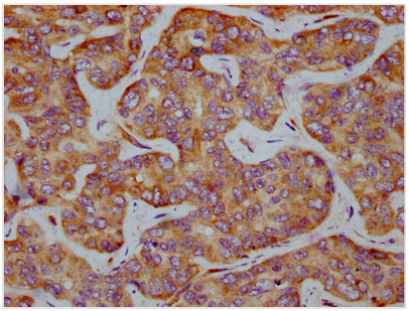
| **Product Code** | CSB-RA007523A51phHU |
| **Abbreviation** | Eukaryotic translation initiation factor 2 subunit 1 |
| **Storage** | Upon receipt, store at -20°C or -80°C. Avoid repeated freeze. |
| **Uniprot No.** | P05198 |
| **Immunogen** | A synthesized peptide derived from Human Phospho-EIF2S1 (S51) |
| **Species Reactivity** | Human |
| **Tested Applications** | ELISA, WB, IHC, IF; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IF:1:20-1:200 |
| **Relevance** | 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 pre-initiation 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. |
| **Form** | Liquid |
| **Conjugate** | Non-conjugated |
| **Storage Buffer** | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. |
| **Purification Method** | Affinity-chromatography |
| **Isotype** | Rabbit IgG |
| **Clonality** | Monoclonal |
| **Alias** | Eukaryotic translation initiation factor 2 subunit 1, Eukaryotic translation initiation factor 2 subunit alpha, eIF-2-alpha, eIF-2A, eIF-2alpha, EIF2S1, EIF2A |
| **Immunogen Species** | Homo sapiens (Human) |
| **Research Area** | Epigenetics and Nuclear Signaling |
| **Gene Names** | EIF2S1 |
| **Clone No.** | 1C6 |
| **Image** | |



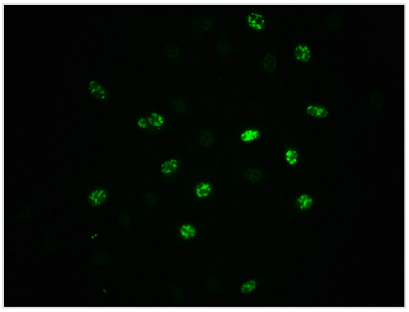

Western Blot
Positive WB detected in Hela whole cell lysate(treated with Calyculin A or EGF)
All lanes Phospho-EIF2S1 antibody at 1.48μg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 36 KDa
Observed band size: 36 KDa



IHC image of CSB-RA007523A51phHU diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



IHC image of CSB-RA007523A51phHU diluted at 1:100 and staining in paraffin-embedded human liver cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunofluorescence staining of A549 cells(treated with 100ng/ml EGF for 20min) with CSB-RA007523A51phHU at 1:100,counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).

## Description

Anti-phospho-EIF2S1 (S51) antibody is a recombinant monoclonal antibody that recognizes the human EIF2S1 phosphorylated at Ser51 residue. This phospho-EIF2S1 antibody was drawn and isolated from the cell culture supernatant that cultivates the mammalian cell lines containing vectors of the human phospho-EIF2S1 (S51) monoclonal antibody gene. This anti-phospho-EIF2S1 (S51) antibody underwent affinity-chromatography purification. It can be used for ELISA, WB, IHC, and IF testing with human samples.

The phosphorylation of the EIF2S1 protein is a crucial mechanism for translation control. Phosphorylation of EIF2S1 on residue S51 results in a stable (EIF2–GDP)–EIF2B interaction, which limits the GDP–GTP exchange and prevents active EIF2 liberation, reducing translation initiation. EIF2S1 has been demonstrated to be required for tumorigenesis and progression since tumors have a higher integrated stress response (ISR) than normal tissue in tumorigenesis, during which EIF2S1 maintains efficient translation of numerous genes involved in tumorigenesis.