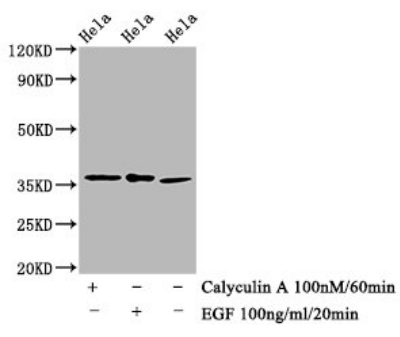
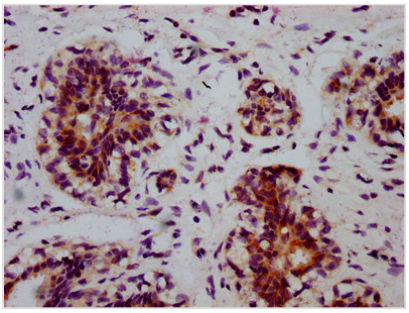
Phospho-EIF2S1 (S51) Antibody

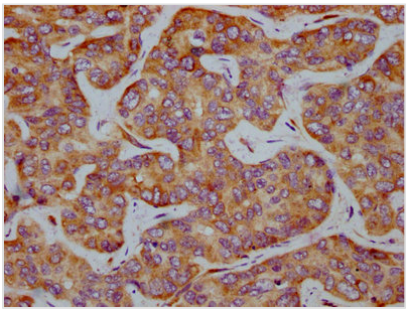
Product Code	CSB-RA007523A51phHU
Abbreviation	Eukaryotic translation initiation factor 2 subunit 1
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P05198
Immunogen	A synthesized peptide derived from Human Phospho-EIF2S1 (S51)
Species Reactivity	Human
Tested Applications	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
Accession NO.	1C6
Image	



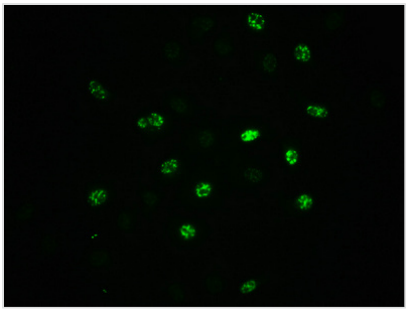
Western Blot
Positive WB detected in Hela whole cell lysate(treated with Calyculin A or EGF)
All lanes Phospho-EIF2S1 antibody at 1.48μg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 36 KDa
Observed band size: 36 KDa



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°C 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°C 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°C. 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.