

## Anti-Phospho-EIF2S1 (Ser51) Antibody (2L872)

### Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	2L872
Purification:	Affinity-chromatography

### Applications

Verified Activity:	<p>1. Western Blot</p> <ul style="list-style-type: none"><li>-Positive WB detected in Hela whole cell lysate(treated with Calyculin A or EGF)</li><li>-All lanes Phospho-EIF2S1 antibody at 1.48µg/ml</li><li>-Secondary: Goat polyclonal to rabbit IgG at 1/50000 dilution</li><li>-Predicted band size: 36 KDa</li><li>-Observed band size: 36 KDa</li></ul> <p>2. IHC image of TMAH-00893 diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica Bond™ 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.</p> <p>3. IHC image of TMAH-00893 diluted at 1:100 and staining in paraffin-embedded human liver cancer performed on a Leica Bond™ 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.</p> <p>4. Immunofluorescence staining of A549 cells(treated with 100ng/ml EGF for 20min) with TMAH-00893 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-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).</p>
Application:	ELISA,IF,IHC,WB
Recommended	WB:1:500-1:5000; IHC:1:50-1:200; IF:1:20-1:200.

### Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

### Antigen Details

Immunogen:	A synthetic peptide: Human Phospho-EIF2S1 (S51)
Antigen Species:	Human
Gene ID:	1965
Uniprot ID:	P05198
Synonyms:	p-EIF2S1 (S51);IF2A_HUMAN;EIF 2alpha;Phospho-EIF2S1 (S51);EIF 2;EIF2S1 (p-S51);EIF2; EIF2A;p-EIF2S1 (Ser51);EIF 2A;EIF 2 alpha
Biology Area:	Epigenetics and Nuclear Signaling

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### Research 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 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. EIF2S1/eIF-2-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/eIF-2-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 QRI1, and hence allowing ATF4- and QRI1-mediated reprogramming.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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