



# eIF2 $\alpha$ (phospho Ser51) Polyclonal Antibody

<b>Catalog No</b>	BYab-03515
<b>Isotype</b>	IgG
<b>Reactivity</b>	Human;Mouse;Rat;Dog;Pig;Fish
<b>Applications</b>	IF;WB;IHC;ELISA
<b>Gene Name</b>	EIF2S1
<b>Protein Name</b>	Eukaryotic translation initiation factor 2 subunit 1
<b>Immunogen</b>	The antiserum was produced against synthesized peptide derived from human eIF2 alpha around the phosphorylation site of Ser51. AA range:21-70
<b>Specificity</b>	Phospho-eIF2 $\alpha$ (S51) Polyclonal Antibody detects endogenous levels of eIF2 $\alpha$ protein only when phosphorylated at S51.
<b>Formulation</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Source</b>	Polyclonal, Rabbit,IgG
<b>Purification</b>	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
<b>Dilution</b>	IF: 1:50-200 Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications.
<b>Concentration</b>	1 mg/ml
<b>Purity</b>	$\geq 90\%$
<b>Storage Stability</b>	-20°C/1 year
<b>Synonyms</b>	EIF2S1; EIF2A; Eukaryotic translation initiation factor 2 subunit 1; Eukaryotic translation initiation factor 2 subunit alpha; eIF-2-alpha; eIF-2A; eIF-2alpha
<b>Observed Band</b>	38kD
<b>Cell Pathway</b>	Cytoplasm, Stress granule . Colocalizes with NANOS3 in the stress granules. .
<b>Tissue Specificity</b>	B cells,Brain,Fibroblast,Placenta,
<b>Function</b>	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.,PTM: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

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successive rounds of initiation and leading to global inhibition of translation. In case of infection by vaccinia virus or rotavirus

**Background**

The translation initiation factor EIF2 catalyzes the first regulated step of protein synthesis initiation, promoting the binding of the initiator tRNA to 40S ribosomal subunits. Binding occurs as a ternary complex of methionyl-tRNA, EIF2, and GTP. EIF2 is composed of 3 nonidentical subunits, the 36-kD EIF2-alpha subunit (EIF2S1), the 38-kD EIF2-beta subunit (EIF2S2; MIM 603908), and the 52-kD EIF2-gamma subunit (EIF2S3; MIM 300161). The rate of formation of the ternary complex is modulated by the phosphorylation state of EIF2-alpha (Ernst et al., 1987 [PubMed 2948954]).[supplied by OMIM, Feb 2010],

**matters needing attention**

Avoid repeated freezing and thawing!

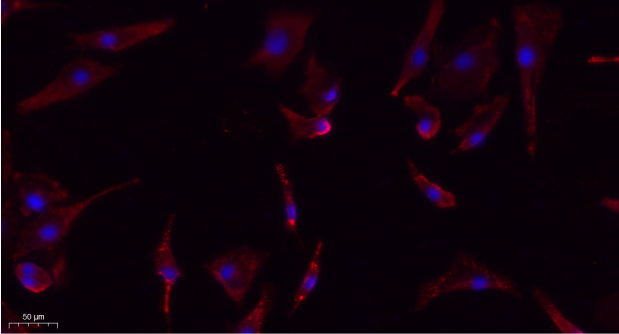
**Usage suggestions**

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

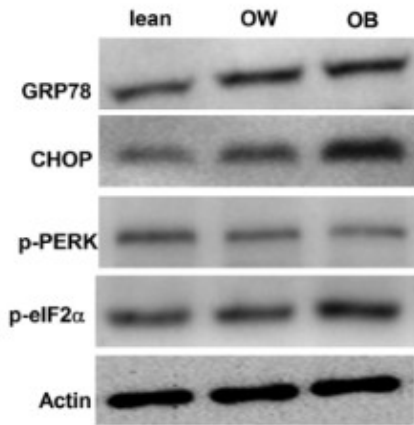
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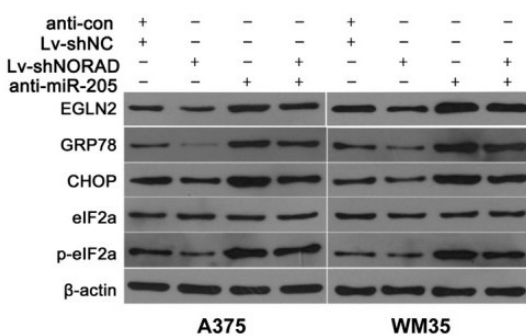
## Products Images



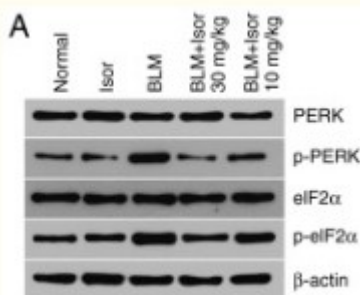
Immunofluorescence analysis of A549. 1, primary Antibody(red) was diluted at 1:200(4°C overnight). 2, Goat Anti Rabbit IgG (H&L) - Alexa Fluor 594 Secondary antibody was diluted at 1:1000(room temperature, 50min).3, Picture B: DAPI(blue) 10min.



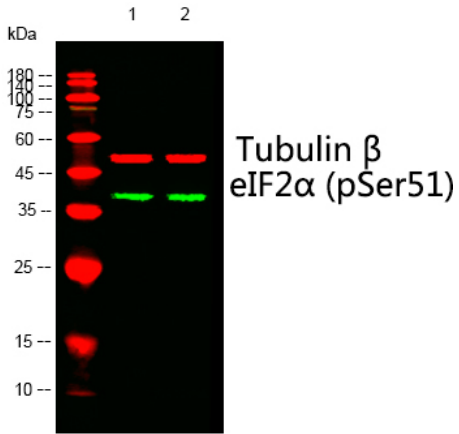
Lei, Ting, et al. "Stress kinases, endoplasmic reticulum stress, and Alzheimer's disease related markers in peripheral blood mononuclear cells from subjects with increased body weight." *Scientific reports* 6 (2016): 30890.



Chen, Yong, et al. "Overexpression of long non-coding RNA NORAD promotes invasion and migration in malignant melanoma via regulating the MIR-205-EGLN2 pathway." *Cancer medicine* (2019).



Zheng, Qing, et al. "Isorhamnetin protects against bleomycin-induced pulmonary fibrosis by inhibiting endoplasmic reticulum stress and epithelial-mesenchymal transition." *International journal of molecular medicine* 43.1 (2019): 117-126.



Western blot analysis of lysates from 1) KB, 2) MCF-7 cells, (Green) primary antibody was diluted at 1:1000, 4 $^{\circ}$  over night, Dylight 800 secondary antibody(Immunoway:RS23920)was diluted at 1:10000, 37 $^{\circ}$  1hour. (Red) Tubulin  $\beta$  Monoclonal Antibody(5G3) (Immunoway:YM3030) antibody was diluted at 1:5000 as loading control, 4 $^{\circ}$  over night,Dylight 680 secondary antibody(Immunoway:RS23710)was diluted at 1:10000, 37 $^{\circ}$  1hour.