

**Phospho-eIF-2alpha (pS51) Rabbit Monoclonal Antibody  
Product Data Sheet**

**Catalog #1090-1**

Clone ID: E90      Lot #: C071301  
Quantity: 100 µl  
Type: Rabbit Monoclonal IgG  
Species Cross-reactivity:  Human  Mouse  Rat  
Applications:  WB  IHC  ICC  Flow Cytometry  IP  
Molecular Wt.: 36 kDa  
UniProt ID: P05198

**Background:** Eukaryotic initiation factor 2 (eIF2) plays a central role in initiating translation, and provides for a rate-limiting step in protein synthesis. Phosphorylation of  $\alpha$ -subunit of eIF2 effectively prevents formation of the eIF2/GTP/Met-tRNAi complex and inhibits global protein synthesis (1-3). Three distinct protein kinases regulate protein synthesis in eukaryotic cells by phosphorylating the  $\alpha$ -subunit of eIF2 at Serine51 (3). Phosphorylation occurs under a wide variety of different stimuli, including heat shock, serum deprivation, glucose starvation, amino acid starvation, exposure to heavy metal ions, and viral infection (3).

**Specificity:** A synthetic phospho-peptide corresponding to residues surrounding Ser51 of human eIF-2 $\alpha$  was used as immunogen. The antibody only detects eIF-2 $\alpha$  phosphorylated on Serine 51. Predicted to cross-react with bovine and pig, based on sequence homology.

**Storage Conditions:** Store at -20 °C. Buffer: 50 mM Tris-Glycine (pH 7.4), 0.15 M NaCl, 40% Glycerol, 0.01% sodium azide and 0.05% BSA. Stable for 12 months from date of receipt.

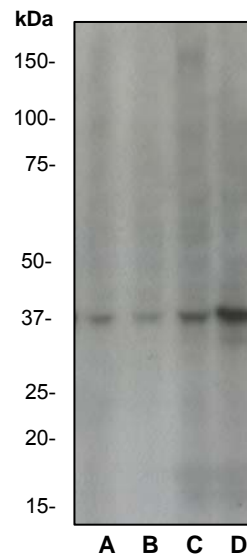
**Recommended Dilutions:**

WB: 1:500-1,000  
IHC: 1:50-100  
ICC: 1:100-250

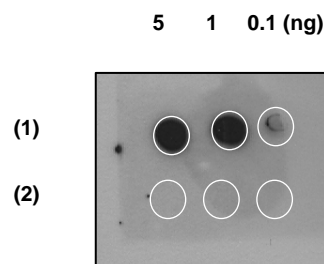
**Background References:**

- Ernst, H., et al. Cloning and sequencing of complementary DNAs encoding the alpha-subunit of translational initiation factor eIF-2. Characterization of the protein and its messenger RNA. *J Biol Chem.* 262: 1206-12 (1987).
- Kimball, S.R. Eukaryotic initiation factor eIF2. *Int. J. Biochem. Cell Biol.* 31: 25-29 (1999).
- De Haro, C., et al. The eIF-2alpha kinases and the control of protein synthesis. *FASEB J.* 10: 1378-1387 (1996).

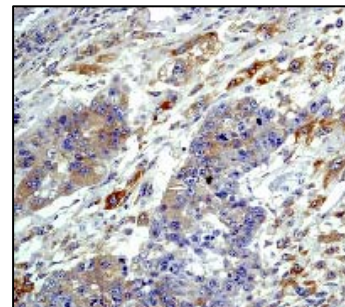
Product QC'd by: \_\_\_\_\_



**Fig 1.** Western blot analysis on PC12 cell lysate using anti- Phospho-eIF-2alpha (pS51) RabMAb (cat. #1090-1); dilution 1:1,000. A: non treated cells B: treated with NGF C: treated with Pervanadate D: treated with FBS



**Fig 2.** Dot blot analysis on antigen peptide. A nitrocellulose membrane was spotted with (1) phospho-peptide and (2) non-phospho-peptide at 5, 1, and 0.1 ng, and then blotted with anti-Phospho-eIF-2alpha (pS51) RabMAb (cat. #1090-1); dilution 1:500.



**Fig 3.** Immunohistochemical analysis of paraffin-embedded human liver carcinoma using anti-Phospho-eIF-2alpha (pS51) RabMAb (cat. #1090-1).

**For research use only. Not for use in diagnostic or therapeutic applications.**

This product was manufactured under US Patents No. 5,675,063 and 5,599,681. For a complete list of protocols and available related products, please visit [www.epitomics.com](http://www.epitomics.com).